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ABSTRACT

This document is part of a five-volume nationwide study of Nutrition Service operations and elderly citizens participating in congregate dining and home delivery services authorized by Title III-C of the Older Americans' Act. This volume contains the analytic report, which presents the major findings of the evaluation. Chapter 1 gives a report overview and acknowledgements, and chapter 2 provides an executive summary of the full report. The third chapter discusses Wave I versus Wave II program operations, and program impacts is the subject of chapter 4. Chapter 5 details support services, and chapter 6 lists contributions received. The seventh chapter talks about priority participants, and chapter 8 discusses the home delivery service. (JMK)

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Volume II

ANALYTIC REPORT

AN EVALUATION OF THE NUTRITION SERVICES FOR THE ELDERLY

Conducted for

THE ADMINISTRATION ON AGING
OF THE
DEPARTMENT OF HEALTH AND HUMAN SERVICES

May 1983

SP 022 943

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ANALYTIC REPORT

AN EVALUATION OF THE NUTRITION SERVICES FOR THE ELDERLY

Conducted For

THE ADMINISTRATION ON AGING
OF THE
DEPARTMENT OF HEALTH AND HUMAN SERVICES

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I. Overview of the Report and Acknowledgement

The evaluation of the Nutrition Services for the Elderly was jointly conducted by Kirschner Associates, Inc. and Opinion Research Corporation. The Final Report is available in five separate volumes.

This volume (Volume II) is the ANALYTIC REPORT and presents the major findings of the evaluation. Other volumes of the Final Report are:

Volume I: EXECUTIVE SUMMARY

Volume III: DESCRIPTIVE REPORT

This volume presents an explication of the evaluation data base. It is intended as a resource volume, as its findings have been refined and subjected to the focused analyses presented in Volume II: ANALYTIC REPORT. The volume includes:

- Program Characteristics
- Interviews with Participants and Non-Participants

Volume IV: APPENDICES

Volume IV presents the Methodology Appendix describing the research design and how the evaluation was executed. Twenty-seven other appendices report analytic techniques and measures of statistical significance referred to in the text of Volume II and Volume III.

Volume V: QUESTIONNAIRES

This volume contains the questionnaires used by the contractors in executing the evaluation. It is intended as a resource volume.

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CHAPTER II

EXECUTIVE SUMMARY OF THE FULL REPORT

The Evaluation of the Nutrition Services for the Elderly is a nationwide study of service operations and elderly citizens participating in services authorized by Title III-C of the Older Americans Act. This evaluation was jointly conducted by Kirschner Associates, Inc. and Opinion Research Corporation. This report is the second of two evaluations, the first of which was conducted during 1976/77.

Nutrition Services were originally authorized by Title VII of the Older Americans Act, but in 1978 their authorization was changed to Title III-C of the Amended Act. Two separate services are authorized by Title III-C: congregate dining and home-delivery.

Title III-C (Subpart 1) authorizes meals served in congregate settings. In addition to providing at least one nutritionally balanced meal, this service may include nutrition education activities and other services deemed appropriate for participants.

Title VII of the Older Americans Act provided that nutritionally balanced meals could be delivered to homes of older persons, but targeted this service to those over 60 years who were "... homebound by reason of illness, incapacitating disability or ... otherwise isolated." In 1978 the Home-Delivered Meal Service was authorized separately under Title III-C (Subpart 2).

The Nutrition Services address a number of problems faced by the nation's older population. Such problems include dietary inadequacy, declining health status, social isolation, and limited access to social and health services. Among certain subpopulations of the elderly -- the poor, ethnic minorities, the isolated, and handicapped -- these problems may be more acute. The Nutrition Services were designed to emphasize services to these groups of priority elderly through outreach efforts to encourage their participation and locating meal sites where they will be accessible to older persons in greatest need.

The major activity of the service is to provide one nutritionally balanced meal per day to the elderly either in a congregate dining setting or through the provision of home-delivered meals. Congregate dining sites and their attached home-delivered meal services are located throughout the country, although all congregate dining sites do not offer home-delivered

meals. Other home-delivery programs, such as Meals on Wheels, often operate in locales where Title III-C home-delivered meals are not offered. Participants are encouraged to contribute to the cost of either their congregate or home-delivered meal.

Besides providing a nutritionally balanced meal, the second major goal of the Nutrition Services is to ameliorate isolation and loneliness that can characterize less mobile elderly citizens; hence, the congregate dining component of the Service which affords opportunities for social interaction and companionship.

In addition to the important dietary and social aspects of the Nutrition Services, nutrition sites are encouraged to provide certain supportive services if needed and not otherwise available to participants. Federal regulations identify these services as recreation, transportation, escort services, nutrition education, shopping assistance, counseling, and information and referral to outside agencies.

The principal purposes of the evaluation include descriptive analyses of Services' characteristics and operations as well as of the characteristics of participants. Evaluative components of the research investigated impacts on participants and the Services' characteristics and operations influencing those impacts.

This evaluation was not designed as a management study. Rather, it addresses one basic question: Do the Nutrition Services significantly benefit older Americans?

Findings Regarding the Service Population

The participant population is stable; most intend to remain enrolled, and the service population is aging.

- Two-thirds of those who were participants 6 years ago and were reinterviewed in 1982 have remained enrolled.
- 9 out of 10 participants intend to continue to remain active in the Nutrition Services.
- 6 years ago, one-third of participants were 75 years or older. In 1982, 41 percent of congregate participants and two-thirds of home-delivered meal recipients were this old.

Older persons participate frequently in the Nutrition Services.

- 61 percent of congregate participants attend meal sites 3 or more times each week.
- 82 percent of home-delivered meal recipients receive a meal in their homes 5 times each week.

Although the program does not exclusively serve priority elderly, three-quarters of congregate participants may be considered priority participants by virtue of advanced age, low income, minority status, isolation, mobility impairment, or the limited ability to speak English. Participants tend to be worse off than non-participants.

- The average age of congregate participants is 73 years.

- Congregate participants are more likely to be single (66%) and live alone (55%) than non-participants living in the same locales.

- Over one-half of participants had low incomes (52% below $6,000; 75% below $10,000); less than one-half of non-participants had incomes below $6,000 in 1981.

Home-delivered meals constitute approximately 22 percent of all Nutrition Services meals and serve an especially needy group.

- Home-delivered meal recipients are older (average age = 78 years), poorer (65% below $6,000 1981 income), and are in poorer health than congregate participants.

Findings Regarding Program Characteristics and Operations

Recruitment is less extensive than in the past and less emphasis is placed upon enrolling priority elderly persons. Most congregate sites are operating at or near capacity.

Transportation is available to participants at most sites, but most participants get to and from meal sites without site assistance. They have little difficulty getting to congregate sites.

- Transportation is available for participants at more than 8 of 10 sites.
- One-fifth of congregate participants use site assistance to get to their sites.
- Nearly 9 of 10 participants report "no difficulty" getting to sites.

Volunteers, most of whom are participants, play an important role in the Nutrition Services.

- Typically, a meal site has one paid staff person and the remainder of staff are volunteers.
- 90 percent of volunteers are participants.
- 20 percent of participants perform volunteer work for The Nutrition Services.

A majority of providers (organizations that administer meal sites) prepare meals in central kitchens or at meal sites. This represents a substantial change, in that, six years ago a majority of providers served meals prepared by contractors or caterers.

Record keeping (e.g. participant rolls, cost records, amount of support services provided) has improved over the past few years, but room for improvement remains.

There is extensive organizational layering in the Nutrition Services. Among the several management layers there is some confusion regarding outreach emphasis and contributions policies.

Contributions practices vary widely and appear to be sensitively applied. Although receipts from contributions (average = 57¢ and 62¢ for congregate and home-delivery respectively) generally meet staff expectations, they do not approach costs (approximately $4.09 to provide a congregate meal; approximately $4.70 to provide a home-delivered meal).

Findings Regarding Nutrition Services' Impacts

The Services do achieve a principal goal of enhancing dietary intake. Increased nutrient intake is directly related to participation in the congregate and home-delivery services.

Calcium intake, in particular, is substantially increased by participation. This finding is of significance, as low calcium intake by older persons may contribute to medical problems (i.e. osteoporosis). The Nutrition Services have an opportunity to even further improve calcium intake among older Americans.

Social benefits of participation are ranked even higher by congregate participants than the meal. Home-delivered meal recipients also highly value the social contact afforded by meal delivery persons.

Participants who utilize support services (e.g. shopping assistance, medical assistance and referral) are those who tend to most need them.

- Those who utilize shopping assistance are more isolated in that they tend to live alone, report having too few friends, and are rarely visited by their children.

- Those who utilize site medical assistance lead more isolated lifestyles and are less educated.

Nutrition education activities offered by meal sites have no discernible impact upon participants' dietary intakes away from the site.

Variations in program characteristics and operations do not substantially influence service impacts upon participants.

* * * * * * * *

The Evaluation of the Nutrition Services for the Elderly was conducted in two waves. Wave I took place during 1976/77 and Wave II was executed during 1982. The evaluation is best characterized as two nationwide studies separated by approximately six years.

The services expanded considerably from 1976 through 1982. In 1976 approximately 6,700 congregate meal sites were in operation. By 1982, that number more than doubled to approximately 13,500. During this period the average size of meal sites has also increased: from less than 50 meals (congregate plus home-delivered) served per day to about 60 meals served per day. It is estimated that, nationally, approximately 800,000 congregate and home-delivered meals were being served per day in 1982, more than twice the number estimated in 1976.

The 1982 phase of the evaluation was, as in 1976/77, national in scope and consisted of two integrated components. Kirschner Associates, Inc. made observations and conducted 350 staff interviews at a representative sample of 70 meal sites representing 70 service providers in 29 states. All ten DHHS regions were included. Thirty-four of the congregate sites visited during 1982 were also visited during 1976/77. Thirty-six sites were visited for the first time in 1982. Interviews were conducted at several management levels:

- State Nutrition Service Directors (N=29)
- Area Agency on Aging Directors (N=67)
- Nutrition Service (Provider) Directors (N=70)
- Nutrition Provider Nutritionists/Dieticians (N=54)
- Advisory Council Members (N=60)
- Meal Site Managers (N=70)

Opinion Research Corporation conducted 3,438 interviews with participants and non-participants at the same 70 meal sites and their adjacent locales:

- Congregate Service Participants (N=1,735)
- Home-Delivery Service Participants (N=415)
- Non-Participating Neighbors (N=1,039)
- Former Participants (N=249)

Substantial efforts were made to locate and reinterview as many respondents who had been interviewed at the thirty-four sites visited during 1976/77. Three-quarters of those who were available to be reinterviewed were successfully reinterviewed.

CHAPTER III

WAVE I VERSUS WAVE II PROGRAM OPERATIONS

A. Introduction and Summary

This chapter presents a collection of comparisons[1] of local nutrition service program operations as revealed in the Wave I (1976) and Wave II (1982) surveys of provider offices and congregate meal sites. These comparisons are therefore based upon data from 91 meal sites (operated by 89 providers) visited in 1976 and 70 meal sites (70 providers) visited in 1982.

These comparisons reveal that, since the early years of nutrition services, local providers' operations have increased greatly in size. There also have been changes in practice regarding participant recruitment, solicitation of participant contributions for meals, use of alternate meal preparation systems, and the types of neighborhoods in which meal sites are located. There also has been a marked increase in the scope of home delivered meals service. With regard to the availability and nature of support services for program participants, the picture is mixed. For the most part, there has been little substantial change since Wave I, although there is some evidence that a smaller proportion of meal sites is now able to offer some services, specifically, shopping assistance and information-and-referral service.

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[1]Given the time and budget constraints upon the Wave II data analyses, the only Wave I-Wave II comparisons that were made were those that were possible using data contained in the Wave I report: Longitudinal Evaluation of the National Nutrition Program for the Elderly: Report of First Wave Findings, Kirschner Associates, Inc., and Opinion Research Corporation, January, 1979.

B. Program Size

The number of congregate meal sites in operation during 1982 was approximately 13,500, more than double the number in 1976 (approximately 6,700). The size of the average meal site also has increased: from less than 50 meals (congregate plus home delivered) served per day to about 60 meals served per day.

In addition to growth in the number and size of the congregate sites, the number and average size of nutrition service providers (administrative offices earlier called "projects") has increased. In 1976 there were approximately 750 providers in operation throughout the contiguous 48 states; in 1982 there were 1,150. In 1976, the average provider administered 10 sites; in 1982, the average is 12 sites per provider. As a result, the average provider in 1982 oversees service of more than 730 meals per day, in contrast to an average of 529 in 1976.

Table III-2 displays the distributions of site size and number of sites per provider for the 1976 and 1982 samples visited during this study.

Combining all of the preceding information, it can be estimated that, nationally, approximately 800,000 congregate plus home delivered meals were being served per day in 1982, more than twice the number estimated in 1976.

TABLE III-1

Program Size Characteristics

Characteristic	Numbers and Percentages of Sites 1976	1982
Number of meals[1] per day at sample meal site[4]		
10 - 25	9 (12%)[2]	9 (13%)[2]
26 - 50	27 (36%)	20 (29%)
51 - 80	23 (31%)	19 (27%)
81 - 119	8 (11%)	16 (23%)
120 - 200	5 (7%)	5 (7%)
201 - 300	2 (3%)	1 (1%)
	(74)(100%)	(70)(100%)
Number of sites per provider[5]		
1	3 (3%)[2]	4 (6%)[2]
2 - 5	14 (15%)	7 (10%)
6 - 10	29 (32%)	17 (24%)
11 - 20	29 (32%)	23 (33%)
21 - 30	10 (11%)	7 (10%)
30+	6 (7%)	12 (17%)
	(91)(100%)	(70)(100%)
Estimated average provider size in meals served per day[3]:	529 meals	731 meals
Actual number for 1982 sample[1]	////	734 meals

[1] Congregate plus home delivered meals, as obtained from provider records for a recent quarter.

[2] Percent of sites for which data are available.

[3] Estimate = median number served at sample sites multiplied by median number of sites per provider.

[4] χ^2, 4 df, (combining the 120-200 and 201-300 categories) = 3.5; not significant.

[5] χ^2, 5 df, = 5.7; no significant change in the distribution of number of sites from 1976 to 1982. In spite of the fact that neither of the above χ^2s are significant, there is an appreciable increase in the average number of meals served per day by the average provider - an increase of 38% over the 1976 service level.

C. Settings and Meal Service Characteristics of Congregate Sites

Table III-2 summarizes information about the neighborhood settings and the buildings which house congregate meal sites, as revealed in the 1976 and 1982 samples. Comparison of the settings of meal sites in 1982 to those in 1976 confirms two shifts which are generally acknowledge within the service network. First, there has been a shift toward urban settings, reflected in a decreased number of rural and all-residential neighborhoods for the sample sites and a corresponding increase in the tendency of sites to be located in neighborhoods with commercial establishments. The second shift in the settings of sites is toward housing congregate meal sites in community centers, including senior centers.

Of several comparisons made of meal service operating characteristics, only one change was discovered between 1976 and 1982. Table III-3 shows that the predominant meal preparation arrangement has shifted from contractor preparation in 1976 (69% of the sample sites) to provider preparation in 1982 (56%).[1] The number of days of service per week is unchanged from 1976 to 1982; most sites (84% in 1976, 91% in 1982) serve five days per week. The availability of special meals and the actual style of food service also have remained unchanged. Most sites do not have special health-related or religious-related meals available and virtually all sites use either cafeteria-style service (66% in 1982) or restaurant-style service (27%).

[1] The 1982 data reveal that 65% of the "old" sites (those visited during 1976) in our sample and 47% of the "new" sites (those which have begun operations since 1975) in our sample are using provider preparation. This difference is not statistically significant.

TABLE III-2

SETTINGS OF SAMPLE SITES

Setting Characteristic	Numbers and Percentages of Sites 1976	1982
Type of neighborhood[3]		
All residential	40 (44%)[1]	12 (17%)[1]
Residential with some business		23 (33%)
Even mix (residential and business)	19 (21%)	16 (23%)
Business with some residential		11 (16%)
All business	14 (15%)	2 (3%)
Rural	13 (14%)	6 (9%)
Type of facility[4]		
Community center	22 (24%)[1]	27 (39%)[1]
Church	25 (28%)	20 (29%)
Apartment complex	11 (12%)	8 (11%)
Storefront	5 (6%)	6 (9%)
School	5 (6%)	1 (1%)
Office building	not tabulated	2 (3%)
Other[2]	23 (25%)	6 (9%)

[1]Percent of all sample sites (1976: 91; 1982: 70).

[2]"Other" facilities observed during both years include lodge halls, civic facilities, and restaurants.

[3]In 1982, fewer sites are located in all-residential or in rural neighborhoods and more are located in neighborhoods with at least some business (χ^2, 2 df, = 20.8, p. < .05, combining the four above business categories).

[4]Housing of nutrition services in community centers has increased in frequency from 1976 to 1982 (χ^2, 1 df, = 4.3, p < .05). Schools, in particular, appear to be less frequently used as sites, but the numbers involved are too few to warrant statistical analysis.

TABLE III-3

MEAL SERVICE AT SAMPLE SITES

Site Characteristic	Numbers and Percentages of Sites 1976[1]	1982
Days per week of service		
1	0 (0%)	1 (1%)
2	2 (2%)	1 (1%)
3	9 (10%)	3 (4%)
4	2 (2%)	1 (1%)
5	76 (84%)	64 (91%)
6	1 (1%)	0 (0%)
7	1 (1%)	0 (0%)
Meal preparation by[2]		
Provider staff	27 (30%)	39 (56%)
Contractor	63 (69%)	31 (44%)
Combination	1 (1%)	0 (0%)
Meal service method[3]		
Cafeteria style	54 (60%)	46 (66%)
Restaurant style	28 (31%)	19 (27%)
Combination above	2 (2%)	2 (3%)
Buffet style	4 (4%)	2 (3%)
Family style	2 (2%)	1 (1%)
Special meals routinely served		
Health-related diets	36 (42%)	28 (40%)[4]
Religious-ethnic meals	22 (25%)	19 (27%)[4]

[1] Sample sizes vary from question to question, but always are close to the full 1976 sample of 91 sites.

[2] χ^2 (eliminating combination category) = 10.4; 1 df, $p < .05$. The predominance of contractor preparation of meals in 1976 has been replaced in 1982 by a predominance of provider-preparation of meals.

[3] χ^2, 2 df, (combining combination, buffet, and other categories) = .9; no signficant change in meal service methods.

[4] Approximately 10% of the remaining sites said that special meals could be made available if requested.

D. Participants' Contributions for Meals

It is of particular interest to compare the policies and practices regarding participants' contributions for meals, between 1976 and 1982, because in the intervening time the Administration on Aging has, through program regulations, encouraged providers to maximize their income from contributions and to implement donation collection procedures which afford privacy to the participants regarding their contribution amounts.

More (84%) of the sites in the 1982 sample suggest an appropriate contribution amount to participants than did sites in the 1976 sample (65%). In addition, the mean suggested amount is higher in 1982 ($.87) than it was in 1976 ($.55), and, the increase (50%) is less than the increase in the cost of living (consumer price index) during that period (70%).

The site managers' estimates of the proportion of participants who donate the suggested amount are unchanged since 1976. Then, as now, at slightly more than 60% of the sites "most" or "all" participants are reported to contribute the suggested amount.

There appears to have been some change in the use of various methods for collecting participant contributions since 1976. During the earlier wave of data collection, participants handed their contributions to a staff member or volunteer at a substantial number (21%) of sites, whereas in 1982 relatively few sites (4%) use such a method. Overall, there has been an increase in the use of anonymous methods for collecting contributions since 1976. Thus, there appears to have been substantial progress made in responding to a recommendation by the U.S. General Accounting Office in this regard.[1]

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[1]Actions Needed to Improve the Nutrition Program for the Elderly. Report by the U.S. General Accounting Office, February, 1978.

TABLE III-4

PARTICIPANTS' DONATIONS FOR MEALS
(Staff Reports)

Characteristic	Numbers and Percentages of Sites 1976	1982
Method of collecting donation[3]		
Cashbox at entry	52 (62%)[1]	52 (75%)
Cashier	18 (21%)	3 (4%)
Meal tickets	8 (9%)	0 (0%)
Billing system	7 (8%)	3 (4%)
Envelopes at table	not tabulated	12 (17%)
Amount suggested as donation[4]		
$.25 or less suggested	12 (13%)[2]	5 (7%)[2]
.26 - .60	29 (33%)	11 (16%)
.61 - .99	14 (16%)	17 (24%)
1.00 - 1.49	1 (1%)	21 (30%)
1.50 or more	2 (2%)	5 (7%)
No amount suggested	31 (35%)	11 (16%)
Proportion of participants who donate suggested amount		
All participants	15 (25%)	4 (7%)
Most	22 (37%)	32 (57%)
About half	10 (17%)	9 (16%)
Less than half	8 (14%)	9 (16%)
None	4 (7%)	2 (4%)

[1] Percent of 84 sites for which information was available.

[2] Percent of all providers in sample (1976: 89 providers; 1982: 70 providers).

[3] χ^2 analyses reveal a reduction in the use of a cashier since 1976 (χ^2, 1 df, = 8.1, $p < .05$).

[4] Significantly fewer sites fail to suggest a donation amount in 1982 than did in 1976 (χ^2, 1 df, = 6.5, $p < .05$). At sites that suggest an amount, the suggested amount has generally increased (χ^2, 3 df, = 28.9, $p < .05$, combining the highest two amount categories for the analysis).

[5] $\chi^2 = 9.1$, 4 df, $p > .05$; the 1976 and 1982 distributions are not significantly different, based upon data from 59 1976 site managers and 56 1982 site managers.

E. Recruitment of Participants

Since their inception, Older Americans Act services have been available to all persons aged 60 or older (and to their spouses, regardless of age), although program regulations have encouraged providers to target the most needy sectors of the elderly population when recruiting participants.

Because of changes in the questionnaires in the Wave I and Wave II surveys, there is only limited opportunity to compare directly the recruitment and outreach activities at the two times. Those comparisons that are possible are shown in Tables III-5 and III-6. The nationwide pattern of recruitment practices appears to have changed since shifting from a predominant emphasis upon low-income elderly in 1976 to a predominantly open recruitment in 1982. That is, in 1976, 68% of the sample nutrition service directors reported a practice of emphasizing low-income elderly when recruiting participants, whereas only 34% reported such a practice in 1982. Conversely, there has been an increase in the number of directors reporting an emphasis upon recruiting very old participants, from 8% in 1976 to 26% in 1982. Local practices emphasizing minority elderly and isolated elderly are about as prevalent in 1982 as they were earlier. Overall, however, there has been a significant increase in the number of directors reporting an open recruitment practice, with no particular groups emphasized: from 26% in 1976 to 57% (a majority) in 1982.

It appears also that the level and diversity of outreach activities have decreased since 1976. When nutrition service directors were asked about their use of specific techniques (posted notices, door-to-door visits, etc.) fewer directors cited each of the methods in 1982 than in 1976. Coupled with staff comments heard during the 1982 data collection, these data suggest an overall reduction in outreach activity because many sites (and providers) are already operating at capacity.

TABLE III-5

RECRUITMENT EMPHASES AT SAMPLE SITES
(Nutrition Service Directors' Reports)

Recruitment Emphasis[2]	Numbers and Percentages of Sites 1976	1982
Low income	62 (68%)[1]	24 (34%)[1]
Ethnic minority	36 (40%)	21 (30%)
Area residents	28 (31%)	not asked
Isolated	22 (24%)	22 (31%)
Poor health	14 (15%)	
Limited mobility	8 (9%)	20 (29%)
Inability to prepare meals	3 (3%)	
Advanced age (very old)	7 (8%)	18 (26%)
Language minorities	1 (1%)	not asked
None[3]	24 (26%)	40 (57%)

[1]Percent of all sample sites (1976: 91; 1982: 70).

[2]Four emphases have data comparable for 1976 and 1982. Analyses indicated a reduced number of sites in 1982 emphasing low income elderly ($\chi^2 = 17.1$), an increased number of sites emphasizing the very old ($\chi^2 = 9.4$), and no change in the numbers of sites emphasizing ethnic minority ($\chi^2 = 1.8$) or isolated elderly ($\chi^2 = 1.2$), all df's = 1.

[3]Since 1976 there has been a significant increase in the number of sites without specific recruitment emphases ($\chi^2 = 15.1$, 1 df, $p < .05$).

TABLE III-6

OUTREACH TECHNIQUES USED AT SAMPLE SITES
(Nutrition Service Directors' Reports)

Outreach Technique	Numbers and Percentages of Sites 1976	1982
Other participants	not asked	46 (66%)[1]
Other agencies	84 (92%)[1]	36 (51%)
Media: Newspaper	83 (91%)	40 (57%)
Radio/TV		25 (36%)
Churches	83 (91%)	25 (36%)
Senior citizen groups	82 (90%)	31 (44%)
Door-to-door canvass	70 (77%)	19 (27%)
Notices in public places	64 (70%)	22 (31%)
None[2]	3 (3%)	3 (4%)

[1]Percent of all sample sites (1976: 91; 1982: 70).

[2]Although sites are as likely to report that they engage in outreach in 1982 as they were in 1976, χ^2 tests reveal a significant reduction in use of the above techniques (e.g., the χ^2 for notices in public places, 1 df, = 22.9 $p < .05$). Individual sites clearly have reduced the diversity of outreach methods used, increasingly focusing upon fewer techniques. The overall level of outreach effort also may have decreased since 1976, an interpretation which is supported by comments by site staff during their interviews.

F. Support Services for Participants

Because of changes that have occurred since 1976 in the structure of the Older Americans Act, in the general economy, and in the reputed financial resources of elderly people, there has been widespread concern about the continued availability of supportive services to nutrition service participants. This section examines selected measures of availability and operation of support services provided through the 1976 and 1982 samples of congregate meal sites.

1. Transportation Services

As Table III-7 details, the availability of transportation for meal site participants remains unchanged since 1976. In 1982, transportation is available at 85% of the sample meal sites. The occasions for which transportation is available are as diverse now as in 1976 and the staffing of transportation also remains unchanged. Most nutrition programs make transportation available for a variety of shopping, health care, and recreation activities in addition to attending meals at the congregate site. Providers also rely upon a variety of sources of staff to drive vehicles: their own paid staff, staff members of other agencies, and volunteers. There does seem to have been an increase in the use of vans or buses, rather than automobiles, since 1976.

2. Shopping Assistance

Table III-8 summarizes information about shopping assistance in 1976 and 1982. Based upon the reports of site managers, shopping assistance is available at fewer of the sample sites in 1982 (69%) than was the case in 1976 (86%). Where it is available, however, the assistance is more likely to be scheduled on a regular basis in 1982 (72% of the sites) than it was in 1976 (35%). The activities composing shopping assistance remain unchanged since Wave I. Most sites include transportation and help carrying packages in their shopping assistance program. For about half of the sites with shopping assistance, participants are given assistance with food selection and with shopping for non-food items.

TABLE III-7

CHARACTERISTICS OF TRANSPORTATION SERVICES
(Nutrition Service Directors' and Site Managers' Reports)

Characteristic	Numbers and Percentages of Sites 1976	1982
Availability of transportation[3]		
Available at all sites	62 (68%)	46 (66%)
Some sites, including sample	17 (18%)	13 (19%)
Some sites, but not sample	10 (11%)	8 (11%)
Not available at any sites	2 (2%)	3 (4%)
Occasions or destinations		
Congregate meals	76 (96%)[1]	55 (96%)[1]
Grocery shopping	68 (86%)	48 (84%)
Recreation activities	64 (81%)	44 (77%)
Personal health care	63 (80%)	45 (79%)
Advisory council meetings	44 (56%)	30 (53%)
Other occasions	39 (49%)	18 (32%)
Transportation staffed by		
Paid provider staff	43 (48%)[2]	34 (51%)[2]
Volunteers	43 (48%)	27 (40%)
Other agency staff:		
• Donated by agency	29 (33%)	22 (33%)
• Paid by provider	21 (24%)	0 (0%)
Other	18 (20%)	4 (6%)
Vehicles used are[4]		
Automobiles	20 (22%)[2]	3 (5%)[1]
Vans, buses	41 (46%)	40 (70%)
Both autos and vans	27 (30%)	14 (25%)

[1]Percent of those sample sites where transportation and data are available.

[2]Percent of those provicders who have service available at least at some sites.

3 χ^2, 1 df (collapsing into two categories: available at sample site, not available) = .2; not significant. There is no change in the availability of transportation since 1976.

[4]Use of automobiles is less likely (χ^2, 1df, = 7.9, $p < .05$) and vans or buses more likely (χ^2, 1 df, = 7.5, $p < .05$) in 1982 than in 1976.

TABLE III-8

CHARACTERISTICS OF SHOPPING ASSISTANCE
(Site Managers' Reports)

Characteristic	Numbers and Percentages of Sites 1976	1982
Sites which provide shopping assistance[2]	78 (86%)	48 (69%)
Assistance included is[3]		
Transportation to stores	68 (87%)[1]	42 (93%)[1]
Carrying packages	63 (81%)	38 (84%)
Non-food shopping	42 (54%)	31 (69%)
Selecting foods	41 (53%)	24 (53%)
Assistance is scheduled[4]		
Regularly	27 (35%)[1]	33 (72%)[1]
On request	30 (40%)	13 (28)

[1]Percent of those site managers providing information for sites with shopping assistance available.

[2] $\chi^2 = 7.2$, 1 df, $p < .05$. Proportionately fewer sites offer shopping assistance in 1982 than did in 1976.

[3]The χ^2 analyses reveal no change in composition of shopping assistance from 1976 to 1982.

[4]Shopping assistance is regularly scheduled at more sites in 1982 than it was in 1976 ($\chi^2 = 16.7$, 1 df, $p < .05$).

3. Recreational Activities

Most nutrition service providers (about 80%) have recreation facilities available for participants, either at the meal site or at some other location. As is shown in Table III-9, this picture is unchanged since 1976. At those sites which do have social-recreational facilities, events are scheduled more frequently, on the average, than they were in 1976. In 1982, the majority of such sites are scheduling social events on a daily basis.

The pattern of interaction among participants and of interaction between staff and participants appears unchanged since 1976. While most sites are characterized by extensive interaction, there is an appreciable number where participants typically are subdued and generally non-interactive.

4. Information and Referral

Table III-10 illustrates some comparisons of information and referral services through congregate sites in 1976 versus 1982. Although most of the 1982 sample sites (86%) are reported to have information and referral service available to participants, this number is less than that reported in 1976 (98%). The methods of information and referral also appear to have shifted since 1976. Currently, there is more widespread use of outside speakers and assistance-on-request than was the case earlier. I + R staff members also are less likely to accompany participants to other agencies in 1982 (staff at 52% of the sites sometimes do so) than in 1976 (73%).

5. Nutrition Education

Program regulations have continued to include nutrition education in the same funding categories as meal services. And, as was the case in 1976, staff members report that nutrition education is available.

TABLE III-9

CHARACTERISTICS OF RECREATION AND SOCIAL INTERACTION
(Site Managers' Reports and Observations at Sites)

Characteristic	Numbers and Percentages of Sites 1976	1982
Recreation available at[3]		
Sample site	56 (66%)[1]	46 (70%)[1]
Other provider location	6 (7%)	1 (2%)
Other location	12 (14%)	6 (9%)
Recreation not available	11 (13%)	13 (19%)
Social events are scheduled[4]		
Daily	34 (54%)[1]	38 (58%)[1]
Several times per week		10 (15%)
Weekly	22 (29%)	11 (17%)
2-3 times per month		4 (6%)
Monthly	10 (13%)	2 (3%)
Less than monthly	9 (12%)	0 (0%)
Upon arrival for meals, participants[5]		
Visit with staff	63 (72%)[1,2]	42 (60%)[1,2]
Visit among themselves	84 (96%)	65 (93%)
Do not interact	18 (21%)	18 (25%)
The meal period includes[6]		
Singing hymns	39 (43%)[1]	12 (17%)[1]
Saying grace	17 (19%)	48 (69%)
Physical exercise	not recorded	10 (14%)

[1] Percent of all sites for which information was available.

[2] Different styles of interaction sum to more than 100% because multiple responses were possible for each site, thereby reflecting interaction patterns of more than one subgroup of participants.

[3] χ^2, 2 df, (combining the two "other" categories) = 4.1; not significant. No change in the availability of recreation and social activities is evident from 1976 to 1982.

[4] Social events are scheduled more frequently in 1982 than they were in 1976 (χ^2 = 17.5, 2 df, $p < .05$, combining the data into three frequency categories: daily or several times per week, weekly or 2-3 times per month, and monthly or less).

[5] The patterns of interaction at sites have not changed from 1976 to 1982, according to χ^2 analyses.

[6] Hymn-singing is less likely at sites in 1982 than it was in 1976 (χ^2, 1 df, = 11.6), whereas saying grace is more likely in 1982 (χ^2, 1 df, = 42.0).

TABLE III-10

CHARACTERISTICS OF INFORMATION AND REFERRAL SERVICES
(Site Manager Reports)

Characteristic	Numbers and Percentages of Sites 1976	1982
Sites which provide I + R[2]	89 (98%)	60 (86%)
Method of providing[3]		
Announcements at meals	72 (81%)[1]	51 (86%)[1]
Printed materials	68 (76%)	51 (86%)
Outside speakers	65 (73%)	53 (90%)
At participant request	35 (39%)	55 (93%)
Other	26 (29%)	10 (17%)
Sites which usually or sometimes[4]		
Make appointment for participant	65 (89%)[1]	47 (78%)[1]
Accompany participant to agency	53 (73%)	31 (52%)
Provide or arrange transportation	53 (73%)	42 (70%)
Follow up on the referral	65 (89%)	46 (77%)

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[1]Percent of those site managers providing information for sites with information and referral service.

[2]$\chi^2 = 9.3$, 1 df, $p < .05$. Proportionately fewer sites provide I + R in 1982 than did in 1976.

[3]The pattern of χ^2 tests of use of the various methods reveals significant increase in use of outside speakers ($\chi^2 = 6.3$, 1 df) and in providing information and referral upon participant request ($\chi^2 = 42.7$, 1 df), since 1976.

[4]χ^2 tests reveal no change in the extent to which sites make appointments, arrange transportation, or follow-up on referrals, but a signficant reduction in accompanying participants to agencies ($\chi^2 = 6.4$, 1 df).

through virtually all meal sites. The content and methods of nutrition education appear largely unchanged since Wave I, with the exception that printed materials and group discussion are more frequently reported as methods in 1982 than they were in 1976. Details about these comparisons are presented in Table III-11.

For the remaining support services examined in the 1982 data collection, and discussed in other portions of this report--escort service, counseling, and medical services--there is insufficient Wave I information for useful comparisons to the Wave II data.

TABLE III-11

CHARACTERISTICS OF NUTRITION EDUCATION
(Nutritionists' and Site Managers' Reports)

Characteristic	Numbers and Percentages of Sites 1976	1982
Sites which provide nutrition education[2]	88 (97%)	62 (89%)
Content includes[3]		
Nutritional values of foods	72 (83%)[1]	56 (90%)[1]
Importance of nutrition	68 (78%)	46 (74%)
Meal preparation	58 (67%)	42 (68%)
Food purchasing	48 (55%)	40 (65%)
Educational methods include[4]		
Classes, lectures	70 (80%)[1]	47 (92%)[1]
Printed materials	58 (67%)	46 (90%)
Displays, posters	54 (62%)	38 (75%)
Personal counseling	49 (56%)	31 (61%)
Group discussions	34 (39%)	34 (67%)
Workshops	28 (32%)	16 (31%)
Games	not asked	25 (49%)
Cooking sessions	not asked	22 (43%)
Market trips	not asked	13 (25%)

[1] Percent of those sites with nutrition education and for which information was available.

[2] χ^2, 1 df, = 3.5, not significant. There is no evidence for change in the availability of nutrition education from 1976 to 1982.

[3] χ^2 analyses revealed no change in content of nutrition education.

[4] χ^2 analyses of the various methods revealed increased use of printed materials (χ^2, 1 df, = 10.5) and group discussion techniques (χ^2, 1 df, = 10.0) since 1976.

G. Home Delivered Meals

One of the most notable aspects of growth in OAA nutrition services since 1976 has been seen in home delivered meal service. As Table III-12 reveals, home delivered meals were available through most Title III nutrition service providers in 1976 and they remain so in 1982. In some instances, home delivered meals do not circulate through congregate meal sites but are distributed from a central location or by some agency other than the Title III provider, accounting for the fact that none of the percentages reaches 100%.

What has changed since 1976 are the number of meals delivered to individual homes and the proportion of all Title III meals which are home delivered. At the average site which handled home delivered meals, the number of home delivered meals has doubled since 1976. But the proportion of home delivered meals, relative to all meals being served, has shown even greater growth, nearly tripling since 1976. Thus, the relative growth of the home delivery program, nationwide, has been greater than any comparable measure for the congregate meal program.

TABLE III-12

CHARACTERISTICS OF HOME DELIVERY SERVICE

Characteristic	Numbers and Percentages of Sites 1976	1982
Home delivery available[4]		
Through provider	84 (94%)[1]	68 (97%)[1]
Through sample site	58 (89%)[2]	55 (79%)[1]
Proportion of site meals that are home delivered[5]		
1 - 5%	21 (36%)[3]	5 (9%)[3]
6 - 10	14 (24%)	10 (18%)
11 - 20	11 (19%)	12 (22%)
21 - 30	8 (14%)	9 (16%)
31 - 40	4 (7%)	10 (18%)
41 - 50		7 (13%)
51+		2 (4%)
Median % for those sites which provide home delivery:	(8%)	(21%)

[1]Percent of all in the sample (1976: 91; 1982: 70).

[2]Percent of sites for which data are available.

[3]Percent of those sites which provide home delivery and for which information was available.

[4]χ^2 analyses reveal no change in availability of home delivery since 1976.

[5]χ^2 analysis (using the five 1976 proportion categories) indicates a shift toward a higher percentage of meals being home delivered in 1982 than in 1976 (χ^2, 4 df, = 21.9, $p < .05$).

CHAPTER IV

PROGRAM IMPACTS

A. Overview

This chapter will address the general issue of program impacts upon elderly citizens who participate in the Nutrition Service. Specifically, we will assess program impacts in six major areas:

- Dietary Intake
- Mobility, Health, and Institutionalization
- Psychological Well-Being
- Isolation and Social Contact
- Perceived Income Sufficiency
- Longevity

Although strict causal inferences regarding the direct benefits of the program are difficult to make with complete certainty, a great deal has been learned from the way in which elderly respondents view their program experiences and the factors that influence their perceptions.

By way of introduction to the following material, there is no doubt that for a vast majority of elderly persons, the program experience is a salient and quite positive component of their lives. In addition to the significant dietary benefits of the Nutrition Services, congregate participants enjoy and value the companionship and social opportunities provided through the program.

Considering the vast body of information available, it is clear that active program participation adds substantially to the quality of the lives of elderly individuals. Remaining active and gregarious in one's later years may be of great benefit to isolated elderly in ways that cannot be easily quantified or that were directly assessed in this evaluation.

In some instances, dramatic, observable program impacts are not found. This may be due to the findings that program participants, with the exception of home-delivered meal recipients, are an active, mobile group of people who have positive self-perceptions. Despite their age, they feel they are less limited than their neighbors who have chosen not to participate in the program.

The majority of the impact data are based upon personal perceptions of respondents' status rather than factual data gathered from a third party source. Self-perceptions, although they may not completely correspond to factual circumstances, may be better indicators of the quality of life. Expectations concerning health and financial well-being change appropriately with age. Older persons may use their age peers as standards of reference when describing themselves. Thus, for example, if an older person reports that his or her health has declined, this probably means health has declined much more than those of a similar age. Additionally, unfavorable self-perceptions can lead to the feeling of being more limited and may themselves become self-fulfilling prophecies.

It is therefore of some significance that participants feel they are healthy, well-adjusted, mobile, and socially active individuals.

Each of the following impact sections was written to stand alone. Thus, there is some repetition regarding description of analytic groups from section to section.

SECTION B

DIETARY INTAKE

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Introduction

A major goal of the National Nutrition Services for the Elderly is to improve dietary intake among program participants through the provision of nutritionally balanced meals. To underscore this key objective, the enabling legislation for the program specifies that service meals should provide 1/3 of the Recommended Daily Allowance determined by the National Research Council.

Dietary intake is one program impact for which the beneficial effects of the program can be clearly seen. Although several variables were related to dietary intake, elderly whose dietary intake data reflected consumption of either a congregate or home-delivered meal had significantly higher dietary intakes for a variety of key nutrients. Program participants who had not eaten a service meal had dietary intakes comparable to intakes of elderly non-participants. Thus, the positive and observable impacts of the program upon dietary status are associated with eating a program meal rather than being a program participant per se.

The data in this section of the Program Impacts chapter are based upon respondents' reports of the foods they had eaten during the 24-hour period prior to being interviewed.[1] (See the Methodology Appendix for a more detailed discussion of the 24-hour dietary recall methodology).

The dietary intake data have been analyzed in several ways. The standard for comparison is the National Research Council's Recommended Daily Allowances for persons 51 years and older.[2] RDA's should not be interpreted as individual dietary requirements. Rather, they represent nutrient amounts thought to be sufficient for the nutritional needs of

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[1] Errors of over- and under-reporting of foods tend to be random through a population and should not affect the validity of comparative findings.

[2] See Appendix U for the RDA values used in analyzing Wave I and Wave II data.

healthy groups of people.[1] Because a single individual's nutrient requirements are difficult to determine, it is not possible to evaluate a person's nutritional status by examining only his or her dietary intake. For example, conclusions about the adequacy of an individual's caloric intake cannot be assessed without knowledge of specific parameters such as body mass or physical activity and energy expenditure. The need for calories is related to activity level and there are considerable individual differences in activity level in the studied age group. It is, however, entirely appropriate to use the RDA as a standard for comparing dietary intakes among groups of people or for evaluating changes in diets over time.

RDA's are frequently used for meal planning, as either very low or very high intakes of specific nutrients may indicate nutritional or health problems. However, there is little consensus among nutritional experts regarding intake levels of specific nutrients that indicate nutritional problems that may be related to health problems.[2]

The following data are organized around a discussion of several basic issues:

- Discussion of the overall dietary intake of elderly participants and non-participants during Wave I (1976-77) and Wave II (1982)
- Factors associated with higher intakes
- Program contribution to elderly dietary intake
- An analysis of the dietary intakes of tracked elderly at two points in time: during Wave I (1976-77) and during Wave II (1982).
- A special analysis of caloric intake which was found to be low for large minorities of elderly participants and non-participants

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[1] See Recommended Dietary Allowances (Ninth Edition), Committee on Dietary Allowances, Food and Nutrition Board, National Academy of Sciences, 1980.

[2] See Pao, E. & Mickle, S. Problem Nutrients in the United States, Food Technology, 1981, 58-79.

1. Overview of Key Findings

- Eating a program meal (whether congregate or home-delivered) substantially enhances dietary intake. This finding is consistent with results found in Wave I.

- Eating a program meal, rather than participating in the program per se, is responsible for increased dietary intake.

- Wave-to-Wave data indicate that the program continues to substantially enhance dietary intake.

- Congregate participants benefit substantially from program meals especially for low intake nutrients such as calcium and calories.

- Home-delivered meal recipients tend to have the lowest dietary intakes, but benefit considerably from consuming a program meal. Difficulty chewing food, poorer health status, and gender are related to dietary intake among this group.

- Respondents with incomes below $6,000 had lower intakes of key nutrients. Consumption of a program meal elevated dietary intakes among poorer elderly respondents so that it was comparable to intakes of more affluent respondents.

- Large minorities of women and men consumed low-energy (i.e. low calorie) diets. Women's energy intake tended to benefit from a program meal. On the other hand, only male participants who did not eat a program meal showed modestly lower energy intake. This suggests men may be more likely to rely upon the program for their meals.

2. Overall Dietary Intake

The measure of overall dietary intake is 2/3 of the RDA for each of 9 key nutrients for one day.[1] The RDA includes a margin of safety, so a criterion of meeting 2/3 of the RDA for each key nutrient was adopted during Wave I and Wave II. The data for Wave I and Wave II for each nutrient are shown in Table IV-1. The dietary intake data obtained for all elderly interviewed during Wave II are generally comparable to those found in other surveys of healthy older Americans.[2]

These data show that congregate dining participants and home-delivered meal recipients whose daily total dietary intake reflected a program meal showed improved intake for many nutrients. Non-participants, former participants, and program participants who did not eat a program meal showed generally lower total daily intakes. Thus, dietary intake improvement is largely a function of consuming a program meal rather than simply being enrolled in either congregate dining or home-delivery services.

Other interesting data in Table IV-1 show that for most nutrients, home-delivered meal recipients who did not eat a service meal tend to show the lowest intake. This pattern is consistent with the facts that home-delivered meal recipients are older, less mobile, and are in poorer health than other elderly groups interviewed.[3] Dietary intake of many nutrients declines with advancing age[4] and restricted mobility may make keeping an amply stocked larder more difficult. Thus, the home-delivery service plays a very important role in improving the dietary intake of these elderly.

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[1] These nutrients were chosen because information about them is available for a wide variety of foods. The source of this information is Handbook 456: Nutritive Value of American Foods in Common Units, U.S. Department of Agriculture.

[2] See Pao, E. and Mickle, S. Problem Nutrients in the United States. Food Technology, 1981, 58-79.

[3] See the Home-Delivery Service chapter.

[4] See Bowman, B. and Rosenberg, I. Assessment of the nutritional status of the elderly, American Journal of Clinical Nutrition, 1982, 35, 1142-1151.

TABLE IV-1

PERCENTAGE OF ELDERLY MEETING AT LEAST 2/3 RDA FOR KEY NUTRIENTS DURING WAVE I AND WAVE II

	Wave II (Wave I in Parentheses)[1]					
	Congregate Dining Participants		Home-Delivered Meal Recipients			
Nutrient[2]	Ate A Site Meal Yesterday N = 800 (N = 765)	Did Not Eat A Site Meal Yesterday N = 920 (N = 1,049)	Ate A Program Meal Yesterday N = 340 (N = 0)	Did Not Eat A Program Meal Yesterday N = 63 (N = 0)	Non-Participating Neighbors N = 1,039 (N = 1,788)	Former Participants (N = 249) (N = 0)
Calcium	64% (67%)	46% (49%)	58%	41%	47% (47%)	49%
Vitamin A	70% (69%)	50% (56%)	64%	46%	55% (53%)	51%
Vitamin C	79% (81%)	72% (73%)	73%	75%	71% (70%)	67%
Thiamin[3]	92% (79%)	86% (74%)	90%	83%	87% (71%)	89%
Niacin[3]	86% (81%)	79% (75%)	81%	68%	80% (72%)	79%
Iron	84% (86%)	74% (77%)	79%	63%	77% (76%)	78%
Riboflavin[3]	95% (89%)	88% (79%)	94%	83%	88% (79%)	90%
Protein	96% (96%)	90% (91%)	95%	90%	90% (90%)	92%
Calories	70% (73%)	63% (68%)	64%	48%	63% (63%)	63%

[1] Dietary intake was not assessed for home-delivered meal recipients and former participants during Wave I.

[2] Discriminant analysis revealed that having eaten a congregate or home-delivered meal was significantly related to better overall diet scores (univariate F for congregate meal participants, df = 1 and 741, = 27.7, $p < .01$; univariate F for home-delivered meal recipients, df = 1 and 123, = 11.8, $p < .01$). See Appendices U and V.

[3] The Wave-to-Wave increases in intake of these nutrients may be strongly related to 25%-50% increases in food nutrient enrichment levels that took effect for these nutrients since Wave I while RDA's for these nutrients have changed little. See Appendix U.

The three lowest intake nutrients during Wave II were calcium, vitamin A, and calories. However, substantial increases in the intake of each was associated with having eaten a program meal.

This evaluation's data regarding calcium intake is consistent with other studies showing that populations of healthy, non-institutionalized elderly are often less likely to meet the calcium RDA than RDA's for other nutrients.[1] The significance of this result is heightened by the general consensus that low calcium intake may be one of several factors contributing to the pathogenesis of osteoporosis among elderly persons.[2]

It is therefore noteworthy that eating a program meal is associated with a rather substantial increase in calcium intake. The degree to which improvements in calcium intake may help prevent or lessen the chances of osteoporotic medical problems (e.g. fractures) among older persons is not yet fully understood; however, many experts feel that increased calcium intake will be of benefit.[2] Since calcium intake was relatively low during Wave I and continues to remain relatively low, greater provision of high calcium foods in Nutrition Service meals could further benefit program participants.

Vitamin A was also found to be among the lower intake nutrients in Table IV-1 and this finding is consistent with other surveys of healthy, free-living elderly Americans.[3] Again, considerable improvement in intake was associated with having eaten a Nutrition Services meal.

Our discussion of caloric intake is deferred to a later section of this chapter.

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[1] See Bowman, B. and Rosenberg, I. Assessment of the nutritional status of the elderly, American Journal of Clinical Nutrition, 1982, 35, 1142-1151.

[2] Heany, R. et al. Calcium nutrition and bone health in the elderly, American Journal of Clinical Nutrition, 1982, 36 (Supplement), 986-1013. The efficiency with which calcium is absorbed declines with age.

[3] See Bowman, B. and Rosenberg, I. Assessment of the nutritional status of the elderly, American Journal of Clinical Nutrition, 1982, 35, 1142-1151.

Other Wave I - Wave II differences found in Table IV-1 may be related to two factors. Wave I dietary recall was conducted during the fall and winter months, while Wave II dietary intakes reflect summer diets. Second, enrichment standards for some nutrients have increased substantially since Wave I with little, if any, change in their respective RDA's (see footnote 3, Table IV-1).

For the analysis of Wave I dietary intake, separate comparisons were made between congregate participants who had either recently entered the program or had been in the program for longer than one year. A comparable analysis is presented in Table IV-2. Overall, the Wave II data show that substantial gains in intake of specific nutrients are associated with consuming a program meal. This was the case during Wave I also. Calcium, vitamin A, and calories remain relatively lower intake nutrients and eating a program meal increases their intake. Due to increased enrichment of foods, intakes of thiamin, niacin, and riboflavin have increased since Wave I.

There is one additional interesting pattern to be found in Table IV-2. During Wave I, recent and longer-term participants whose dietary intakes reflected consumption of program meals had reasonably comparable intakes of three nutrients: calcium, niacin, and iron. During Wave II, however, a larger proportion of recent entrants who ate a program meal met or exceeded 2/3 RDA for these three nutrients. These data contribute to what appears to be a "gap" between the Wave II intakes of recent and longer-term participants whose dietary intakes reflect eating at their congregate meal sites. This pattern may perhaps be best interpreted in light of other dietary research showing that elderly persons are more likely to fall below 2/3 RDA for each of these nutrients.[1] In this evaluation, Wave II longer-term participants who ate at the site were generally older than recent entrants who ate at the site. Whereas 45 percent of these longer-term participants were 76 or older, 31 percent of the recent entrants were as old. Thus, these intake differences appear to be most plausibly related to the age composition of the two groups rather than program factors.

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[1] See Bowman, B. and Rosenberg, I. Assessment of the nutritional status of the elderly, American Journal of Clinical Nutrition, 1982, 35, 1142-1151.

TABLE IV-2

PERCENTAGE OF RECENT ENTRANTS AND LONGER-TERM CONGREGATE PARTICIPANTS MEETING AT LEAST 2/3 RDA FOR KEY NUTRIENTS DURING WAVE I AND WAVE II

	Wave II (Wave I in Parentheses)			
	Recent Entrants		Longer-Term Participants	
Nutrient	Ate A Site Meal Yesterday N = 363 (N = 765)	Did Not Eat A Site Meal Yesterday N = 486 (N = 1,049)	Ate A Site Meal Yesterday N = 437 (N = 541)	Did Not Eat A Site Meal Yesterday N = 434 (N = 420)
Calcium[1]	68% (66%)	47% (50%)	60% (68%)	45% (48%)
Vitamin A	70% (69%)	50% (56%)	70% (69%)	50% (57%)
Vitamin C	82% (79%)	72% (73%)	77% (83%)	71% (72%)
Thiamin	92% (79%)	85% (73%)	92% (80%)	87% (75%)
Niacin[1]	91% (81%)	79% (74%)	82% (81%)	78% (76%)
Iron[1]	88% (86%)	73% (77%)	81% (85%)	74% (78%)
Riboflavin	97% (90%)	88% (78%)	94% (88%)	87% (83%)
Protein	96% (96%)	91% (90%)	95% (95%)	89% (93%)
Calories	73% (73%)	61% (67%)	68% (73%)	65% (69%)

[1] Recent entrants who ate a program meal were more likely to meet or exceed 2/3 RDA for this nutrient than did longer-term participants who ate a program meal (all χ^2, 1df, > 5.0, p's < .05).

It is desirable to take an overall view of dietary intake rather than examine only one nutrient at a time. Table IV-3 presents this more global view of dietary intake.

These data clearly show that higher intake is associated with having eaten a Nutrition Service meal and that this was true for Wave I as well as Wave II. As we observed in Table IV-1, home-delivered meal recipients whose dietary intakes did not reflect program meals had the lowest dietary intake, but eating a program meal made the greatest difference in total dietary intake. A program meal contributed substantially more to the daily intakes of home-delivered meal recipients than it did for congregate dining participants. Home-delivered meal participants were nearly half again more likely to meet the 2/3 RDA criterion for 7 of 9 key nutrients if they had eaten a program meal (i.e. an increase from 46% to 68% represents a 48% proportional gain). Congregate participants who ate a site meal were proportionally 28 percent more likely to meet 2/3 RDA than those who did not consume a program meal.

Table IV-3 also shows that dietary intake has increased for participants who ate a program meal and their non-participating neighbors. This may be due to substantial increases in enrichment standards for some nutrients (see Appendix U) and little, if any, change in the respective RDA's.

TABLE IV-3

PERCENTAGE OF ELDERLY MEETING OR EXCEEDING 2/3 RDA[1,2]
FOR AT LEAST 7 OF 9 KEY NUTRIENTS

	Congregate Dining Participants		Home-Delivered Meal Recipients			
	Ate A Site Meal Yesterday	Did Not Eat A Site Meal Yesterday	Ate A Program Meal Yesterday	Did Not Eat A Program Meal Yesterday	Non-Participating Neighbors	Former Participants
Wave I[3]	72% (N = 765)	61% (N = 1,049)	Not Assessed	Not Assessed	56% (N = 1,788)	Not Assessed
Wave II[4]	77% (N = 800)	60% (N = 920)	68% (N = 340)	46% (N = 63)	63% (N = 1,039)	61% (N = 249)

[1]No effort was made to rank one nutrient as more important than another.

[2]Higher Wave II intakes may be due to increased nutrient enrichment of foods and RDA's which have remained fairly constant since Wave I. See Appendix U.

[3]Percentages differ significantly (χ^2, 1df = 50.3, $p < .01$). Elderly who consumed a program meal were more likely to meet or exceed 2/3 RDA for 7 of 9 key nutrients.

[4]Percentages differ significantly (χ^2, 1df = 55.7, $p < .01$). Elderly who consumed a program meal were more likely to meet or exceed 2/3 RDA for 7 of 9 key nutrients.

3. Site and Personal Factors Related to Overall Intake

A key finding is that eating either a site or home-delivered meal improves the daily dietary intake of elderly participants. Additional multivariate analyses[1] were conducted to identify program and respondent characteristics predicting whether persons either met or did not meet 2/3 RDA for at least 7 of the 9 key nutrients discussed earlier. These analyses confirmed the earlier finding that eating a program meal was the most powerful program-related predictor of dietary intake.[2]

Other Program Factors Associated With Higher Intake

- Congregate and home-delivered meal recipients who reported that Service meals usually tasted good had higher daily intakes. Only 5 percent of congregate participants and 8% of home-delivered meal recipients felt the meals did not usually "taste good."

- Among home-delivered meal recipients, higher daily intakes were associated with:

  - Sites that offered shopping assistance.

  - Having to pay for the meal, either through a fixed fee or donation.

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[1] See Appendices V, W, and X for a description of the analytic technique.

[2] See Appendices U and V.

- Sites where meals were prepared by a contractor or caterer rather than prepared by staff. Because this finding was obtained for total daily intake (i.e. 2/3 RDA criterion) special analyses compared intakes directly attributable to program meals. Intake <u>directly attributable</u> to contractor-prepared meals was no different than that attributable to staff-prepared meals.[1] We have no definitive explanation for this finding regarding total daily intake, since there is no advantage conferred to those who consume contractor- or caterer-prepared program meals.

<u>Personal Factors Associated with Higher Intake</u>

Several personal, demographic, and health characteristics were found to be positively associated with daily dietary intake. Among participants, non-participants, and home-delivered meal recipients, those with higher 1981 annual household incomes were more likely to meet the 2/3 RDA criterion for 7 of 9 key nutrients. In addition:

- Congregate dining participants who were able to independently care for their homes had higher dietary intakes.

- Among home-delivered meal recipients better intake was positively related to:

  - Enjoying eating and having little difficulty chewing food.

---

[1]Respondents who ate contractor and site prepared meals were equally likely to meet 1/3 RDA for 7 nutrients during the 11:00 A.M. - 4:00 P.M. period (χ^2, 1df, = 0.9, $p > .05$).

- Feeling one's health was reasonably good and had not declined during the past year.

- Gender: Females reported somewhat higher daily intakes. (71% of home-delivered meal recipients were elderly women.)

- Among non-participating neighbors of congregate meal participants, higher intakes were reported by elderly who:

  - Were not married or were widowed, but helped someone else cook meals and were likely to eat with others at home.

  - Lived in households <u>not</u> receiving food stamps (10% of households received food stamps).

4. Program Contribution to Dietary Intake

The enabling legislation for the National Nutrition Services for the Elderly stipulates that meals should provide one-third of the RDA. Of course, providing appetizing, nutritionally balanced meals does not assure that elderly will consume them in their entirety. Although direct assessment of the nutritional content of meals served was outside of the scope of the present evaluation, other independent evaluations of the program have found that meals served generally meet the one-third RDA goal.[1]

Table IV-4 shows the degree to which respondents who did or did not consume a program meal were likely to meet the 1/3 RDA criterion for specific nutrients during the 11:00 A.M. - 4:00 P.M. period.

These data show quite clearly that intake during this period of the day is considerably improved by consuming a program meal. Consumption of low intake nutrients (i.e. calcium, vitamin A, and calories) is increased by either a congregate or home-delivery service meal. These rather large differences associated with the program meal raise an interesting hypothesis. For many participants, the program meal may be the largest or most nutritionally balanced meal of the day.

Table IV-4 also shows that program meals were most successful in getting the following nutrients into participants' dietary consumption: protein, riboflavin, niacin, thiamin, and iron. Program meals were less successful in getting the following into participants' dietary consumption: calcium, calories, vitamin A, and vitamin C.

Home-delivered meal recipients whose dietary data reflect a program meal show marginally lower intakes for many nutrients which is consistent with previous analyses in this section of the report. This is probably due to two findings.[2] Home-delivered meal recipients reported more difficulty chewing food and, thus, may not have been able to consume meals in their entirety. They also felt meal portions were somewhat less adequate than did congregate dining participants.

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[1] See Analyses of Food Service Delivery Systems Used in Providing Nutrition Services to the Elderly, Kirschner Associates, Inc., 1981.

[2] See Home-Delivery Service chapter for these analyses.

TABLE IV-4

PERCENTAGE OF ELDERLY WHO CONSUMED 1/3 RDA
DURING THE 11 A.M. - 4 P.M. PERIOD

Nutrient[1]	Ate A Program Meal		Did Not Eat A Program Meal			
	Congregate Dining Participants (N = 800)	Home-Delivered Meal Recipients (N = 340)	Congregate Dining Participants (N = 920)	Home-Delivered Meal Recipients (N = 63)	Non-Participants (N = 1,039)	Former Participants (N = 249)
Calcium	51%	50%	26%	30%	25%	25%
Vitamin A	55%	50%	28%	32%	26%	26%
Vitamin C	59%	52%	36%	44%	34%	36%
Thiamin	70%	67%	54%	49%	52%	54%
Niacin	73%	66%	52%	46%	49%	46%
Iron	75%	67%	46%	51%	44%	40%
Riboflavin	78%	75%	57%	54%	56%	55%
Protein	87%	83%	64%	63%	60%	58%
Calories	53%	48%	35%	30%	32%	31%

[1] Elderly who ate a program meal were significantly more likely to meet 1/3 RDA for each nutrient (all χ^2, 1df, > 90.0, all p's < .01).

Earlier, we noted that calcium was a relatively low intake nutrient and discussed the significance of this finding in terms of osteoporosis. At that time it was suggested that provision of more calcium rich foods could benefit the elderly. Data in Table IV-4 clearly show that consuming a program meal is related to a substantial increase in calcium intake. For example, eating a program meal nearly doubles the number of congregate participants who meet 1/3 RDA for calcium during the 11:00 A.M. - 4:00 P.M. period.

Table IV-5 shows the percentages of elderly who consumed 1/3 RDA for the 9 key nutrients during Wave I and Wave II. Overall, it is evident that the nutrition program continues to supply a substantial proportion of elderly dietary intake, but some changes have occurred since Wave I. Elderly participants show Wave-to-Wave increases in the consumption of two nutrients: thiamin and iron. While improved thiamin intake is probably due to large increases in thiamin enrichment since Wave I[1], increased iron intake could reflect either differences in the meals served or changing food preferences among the aging sample of program participants.

Vitamin C intake has declined since Wave I, but this is probably due to either or both of two factors. Citrus consumption may be lower during summer months (Wave I was conducted during the fall and winter; Wave II occurred during the summer). Also, the RDA has been raised by approximately one-third since Wave I.[2]

As noted earlier, calcium and calories were relatively low intake nutrients. Table IV-5 shows modestly lower intakes of these two nutrients from the program meal during Wave II. Neither of these differences should necessarily be interpreted to mean that the program meals now contain less of these nutrients, since the data in Table IV-5 reflect consumption. As seen in Table IV-4, the program still contributes substantially to calcium intake. Reduced caloric intake from Wave I may simply mean that participants, who are now older, are eating less. A later section will address caloric intake.

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[1] See Appendix U for a discussion of nutrient enrichment changes that have occurred since Wave I.

[2] See Appendix U.

TABLE IV-5

PERCENTAGE OF PARTICIPANTS WHO CONSUMED 1/3 RDA FROM A PROGRAM MEAL

Nutrient	Wave I	Wave II	
	Congregate Dining Participants (N = 1,306)	Congregate Dining Participants (N = 800)	Home-Delivered Meal Recipients (N = 340)
Calcium	57%	51%	50%
Vitamin A	56%	55%	50%
Vitamin C	69%	59%	52%
Thiamin	57%	70%	67%
Niacin	74%	73%	66%
Iron	57%	75%	67%
Riboflavin	75%	78%	75%
Protein	88%	87%	83%
Calories	61%	53%	48%

5. Priority Elderly and Consumption of Low Intake Nutrients

A major question addressed by this evaluation is the degree to which the National Nutrition Services help meet the needs of priority elderly. Priority elderly consist of individuals who are:

- Poor
- Ethnic minorities
- Socially isolated
- 75 years of age or older
- Non-English speakers

Discriminant function analyses[1] revealed that income was significantly related to dietary intake in participant, home-delivered meal, and non-participant samples. Specifically, respondents with higher 1981 annual family incomes were more likely to meet or exceed the 2/3 RDA criterion for 7 of 9 key nutrients. None of the other priority characteristics were found to reliably predict dietary intake.

To further investigate the impact of income and program participation upon dietary intake, the data contained in Table IV-6 were analyzed. This table presents dietary intake data for three relatively low intake nutrients identified earlier (i.e. calcium, vitamin A, and calories).

This analysis shows two important results. First, consuming a program meal substantially elevated intake. But perhaps most importantly, eating a program meal significantly reduced income-related intake differences for calcium and calories. Whereas higher income was significantly associated with higher intakes among those who did not consume a program meal, income made no difference if respondents' dietary intake data reflected either a congregate or home-delivered meal.

Thus, it is clear that the negative impact of low income upon diet is substantially ameliorated by consuming a service meal. This effect is most striking for specific nutrients which tend to be consumed in relatively lower quantities by elderly persons.

---

[1] See Appendices V, W, and X for a description of the analytic techniques.

TABLE IV-6

RELATIONSHIP BETWEEN DAILY DIETARY INTAKE
OF LOW INTAKE NUTRIENTS, PROGRAM PARTICIPATION
AND 1981 FAMILY INCOME

Met or Exceeded[2] 2/3 RDA	Ate A Program Meal		Did Not Eat[1] A Program Meal	
	Below $6,000 (N=678)	$6,000 or More (N=409)	Below $6,000 (N=1,107)	$6,000 or More (N=1,077)
Calcium	61%	63%	42%	51%
Vitamin A	65%	74%	46%	54%
Calories	73%	78%	62%	73%

[1] Includes all respondents who did not eat a program meal (i.e. participants, home-delivered meal recipients, non-participants and former participants).

[2] Among those who did not eat a program meal, income was significantly related to higher intake for each nutrient (all χ^2, 1df, > 5.4, all p's < .01)

Among those who consumed a program meal, income was significantly related to higher intake of Vitamin A (χ^2, 1df = 7.9, p < .01), but not for calcium or calories (all χ^2, 1df, < 2.9, p's > .05).

6. Tracked Respondents' Dietary Intake

The original design of the Evaluation of the Nutrition Services for the Elderly called for tracking and reinterviewing cohorts of respondents each year for a period of several years. Because of the approximately six-year interval between Wave I and Wave II, many of the original longitudinal aspects of the research design have been lost. However, substantial efforts were made during Wave II to track and reinterview as many Wave I elderly as possible. Overall, 42 percent of tracked Wave I participants and non-participants at sites in the Wave II sample were successfully reinterviewed.[1]

In this section we present analyses of tracked respondents' dietary intakes. Although causal inferences regarding program impacts upon dietary intake at two widely separated points in time are difficult to make with an acceptable degree of confidence, the basic policy questions remain unchanged. Has remaining enrolled in the nutrition program been of benefit? Additionally, has dietary intake declined for those respondents who no longer actively participate in the congregate program? Table IV-7 presents a summary of the data for the 716 tracked respondents for whom all relevant Wave I and Wave II data were available.

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[1] See the Methodology Appendix for a description of the tracking procedures.

TABLE IV-7

PERCENT OF REINTERVIEWED CONGREGATE PARTICIPANTS AND NON-PARTICIPANTS[1,2] MEETING AT LEAST 1/3 RDA FOR 7 OF 9 KEY NUTRIENTS DURING THE 11:00 A.M. - 4:00 P.M. TIME PERIOD DURING WAVE I AND II

		Wave II Intake		
		Still Active Participants		
Tracked Participants	Wave I Intake[3]	Ate A Program Meal	Did Not Eat A Program Meal	Dropped Out of the Program
Ate A Program[4] Meal During Wave I	70% (N = 184)	75% (N = 87)	71% (N = 52)	60% (N = 45)
Did Not Eat A[5] Program Meal During Wave I	50% (N = 262)	73% (N = 59)	40% (N = 97)	45% (N = 104)
		Are Current Participants		
Tracked Non-Participants[6]		Ate A Program Meal	Did Not Eat A Program Meal	Still Non-Participants
	47% (N = 270)	62% (N = 13)	50% (N = 20)	46% (N = 237)

[1] Dietary intake for participants who ate a program meal reflects the program meal itself during this time period.

[2] 1980 RDA's were used for all intake data to control for any apparent differences related to increased nutrient enrichment standards since Wave I. See Appendix U. Hence, Wave I data in this table can only be legitimately compared with Wave I data in Tables IV-8 and IV-9.

[3] During Wave I, participants who ate a program intake were significantly more likely to meet at least 1/3 RDA than respondents who did not consume a program meal (χ^2, 1df, = 25.3, $p < .01$).

[4] During Wave II, those who consumed a program meal had intakes comparable to those who did not eat a program meal (χ^2, 1df, = 1.3, $p > .05$).

[5] During Wave II, those who had a program meal had significantly higher intake (χ^2, 1df = 15.8, $p < .01$).

[6] During Wave II, those who ate a program meal had intakes comparable to those who did not eat a program meal (χ^2, 1df = 0.7, $p > .05$).

Data in Table IV-7 reflect dietary intake during the 11:00 A.M. - 4:00 P.M. period. For respondents who ate a program meal, meeting or exceeding 1/3 RDA is therefore directly attributable to consumption of program meals.

The data in Table IV-7 reveal two significant findings. First, during Wave I, participants who ate a program meal were more likely to achieve the 1/3 RDA criterion than those whose dietary intake did not reflect a service meal. Secondly, benefits of eating a program meal during Wave II are only found for elderly who did not consume a program meal during Wave I. Contrary to what might be expected, respondents who ate a program meal during Wave I, but have since left the program do not exhibit significantly lower intakes during Wave II. Also, the very small sample of Wave I non-participants who have enrolled in the program and ate a program meal during Wave II show intakes comparable (albeit marginally higher) to elderly who have remained non-participants over the past few years (i.e. 62% vs. 50% meet 1/3 RDA).

The results in Table IV-7 appear to indicate more about the nature of active long-term participants than about the dietary impact of program participation per se. For example, Wave I participants who consumed a meal six years ago were significantly more likely to have remained in the congregate program than tracked participants who did not consume a program meal during Wave I (75% and 60%, remained in the program, respectively).[1] Furthermore, tracked participants who had consumed a meal six years ago were significantly more likely to have eaten a program meal prior to being interviewed during Wave II (47% vs. 28% of tracked participants who did not consume a program meal during Wave I).[2]

Those who ate a program meal prior to being interviewed during both Wave I and Wave II may find particular enjoyment in eating and may consume their largest daily meal during the 11:00 A.M. - 4:00 P.M. period. Hence, one might expect little observable impact of program meals upon their dietary intake during this period of the day.

---

[1] Percentages differ significantly (χ^2, 1df, = 11.0, $p < .01$).

[2] Percentages differ significantly (χ^2, 1df, = 10.9, $p < .01$).

7. Supplemental Analysis: Caloric Intake

Previous analyses identified calories as a relatively low intake nutrient among respondents during both Waves of the evaluation. Energy intake (i.e. caloric intake), however, was significantly enhanced if respondents' dietary intake reflected a program meal, although approximately one-half of respondents who consumed a program meal still did not meet 1/3 RDA during the 11:00 A.M. - 4:00 P.M. time period.

This section presents a closer examination of energy intake and is a special analysis of people with very low caloric intakes. Two issues are of interest. First, what percentage of respondents were found to be consuming low energy diets? Secondly, does eating a Nutrition Service meal enhance the energy component of diets?

The analyses presented in Tables IV-8 and IV-9 identify the percentages of respondents with low total daily energy intake controlled for gender and age.[1] Separate comparisons are made between respondents who did and did not eat a program meal. Low daily caloric intake for females was defined as being below 1,200 Kcal; for males it was below 1,400 Kcal. Overall, 32 percent of respondents were found to have very low caloric intakes.

Data in Table IV-8 are for females. They show some interesting general patterns and one or two major differences. First, fully one-third of all women respondents regardless of age group had daily caloric intakes below 1,200 Kcal. Secondly, older women were marginally more likely to have low intakes (31% vs. 26%, respectively).[2]

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[1] Caloric RDA's vary considerably by gender and age. See Appendix U.

[2] This is consistent with other dietary studies demonstrating an inverse relationship between age and caloric intake. See Bowman, B. and Rosenberg, I. Assessment of the nutritional status of the elderly. American Journal of Clinical Nutrition, 1982, 35, 1142-1151.

TABLE IV-8

PERCENT OF ELDERLY FEMALES WITH LOW[1,2]
TOTAL DAILY CALORIC INTAKE BY AGE

Age	Ate A Program Meal	Did Not Eat A Program Meal	
	Congregate Participants and Home-Delivered Meal Recipients	Congregate Participants and Home-Delivered Meal Recipients	Non-Participants and Former Participants
Less than 76 Years[3]	26% (N = 422)	34% (N = 480)	34% (N = 527)
Age 76 or Older[4]	31% (N = 368)	36% (N = 257)	37% (N = 376)

[1]Less than 76 low intake = below 1,200 Kcal per day.
Age 76 or older low intake = below 1,200 Kcal per day.

[2]See Appendix U for RDA ranges

[3]Percentages differ significantly (χ^2, 1df = 8.2, $p < .01$). Women less than 76 who ate a program meal were less likely to have caloric intakes below 1,200 Kcal.

[4]Percentages do not significantly differ (χ^2, 1df, = 3.1, $p > .05$).

Other interesting findings in Table IV-8 reveal that "younger" older women (under 76 years) were significantly less likely to fall into the low intake group if they had consumed a site meal. A similar, but statistically non-significant tendency is also evident for women 76 years or older. Younger women, who may be more active, clearly benefit from consuming a program meal. The importance of this finding is highlighted by the fact that women less than 76 years of age[1] are the single largest segment of the sampled Nutrition Service population (i.e. 43% of all sampled congregate and home-delivered meal recipients). The second largest single segment of the Service population consists of women who are 76 years or older (i.e. approximately 30% of respondents). Thus, a program meal enhances the energy component of the diets consumed by a large portion of the Service population.

Table IV-9 presents caloric intake data for males in the less than 76 and 76 or older age groups. Twenty-nine percent of all males had low energy diets. As was true for females, "older" older men (76 years +) were somewhat more likely to exhibit low caloric intake than "younger" older men less than 76 years of age (31% and 25%, respectively).[2]

In contrast to what was found for women, eating a program meal did not reduce the probability of men consuming a low-energy diet on the day prior to being interviewed. Rather, a different although not statistically significant pattern is observed in Table IV-9. Men who were program participants but did not consume a program meal, were somewhat more likely to show low energy diets than either participants who ate a program meal or non-participants. This pattern is somewhat more pronounced among older men (43% vs. 31% and 30%, respectively).

[1] Spouses of eligible participants may be included in this group.

[2] Statistical comparisons between males and females have not been made due to different definitions of low intake.

TABLE IV-9

PERCENT OF ELDERLY MALES WITH LOW[1,2]
TOTAL DAILY CALORIC INTAKE BY AGE

Age	Ate A Program Meal	Did Not Eat A Program Meal	
	Congregate Participants and Home-Delivered Meal Recipients	Congregate Participants and Home-Delivered Meal Recipients	Non-Participants and Former Participants
Less than 76 Years[3]	25% (N = 189)	30% (N = 168)	27% (N = 261)
Age 76 or Older[4]	31% (N = 153)	43% (N = 74)	30% (N = 114)

[1] Less than 76 low intake = below 1,400 Kcal per day
Age 76 or older low intake = below 1,400 Kcal per day

[2] See Appendix U for RDA ranges

[3] Percentages do not significantly differ (χ^2, 1df, = 0.6, $p > .05$). Those who ate a program meal were no less likely to have low total daily caloric intake than all others.

[4] Percentages do not significantly differ (χ^2, 1df, = 0.5, $p > .05$). Those who ate a program meal were no less likely to have low total daily caloric intake than all others.

This gender related pattern is perhaps best interpreted in light of the fact that males were significantly less likely to cook for themselves.[1] Male participants who less often cook for themselves may have come to rely more upon the program to provide nutritionally balanced meals. This hypothesis receives some support from the finding that male congregate participants attend their meal sites more frequently than do female participants. Whereas 52 percent of males reported attending their sites at least four days a week, 44% of females attended so frequently.[2]

[1] A significant correlation was found between gender and normal meal preparation ($r = -.47$, $p < .01$).

[2] See multivariate findings and illustrative table in Appendix D.

SECTION C
HEALTH AND INSTITUTIONALIZATION

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II. Introduction

In this section of the Impacts Chapter, data are presented regarding elderly respondents' mobility, self-reported health status, and institutionalization. We will describe the basic Service population and non-participants along these important dimensions at two points in time: Wave I (1976) and Wave II (1982). A second major focus of this section is to attempt to assess whether respondents have benefited in terms of mobility and health status from long-term program participation. Specific analyses were conducted comparing reinterviewed Wave I respondents to assess changes in their mobility and health status. Four important sub-groups of reinterviewed Wave I respondents were compared:

- Those who remained participants
- Those who have left the program since Wave I
- Those who have remained non-participants
- Those who have enrolled in the program since Wave I

The assessment of program impacts will rely primarily upon analyses of reinterviewed Wave I respondents. Although causal inferences regarding program impacts at two widely separated points in time are difficult, these analyses, because of their descriptive content, are informative.

For an assessment of the mobility and self-reported health status of home-delivered meal recipients the reader is referred to the Home-Delivery Service Analytic Chapter.

A. Overview of Key Findings

- Participants are more mobile than their non-participating neighbors. Once an elderly person enrolls, program participation may help keep them mobile.

- Those who have remained active in the program since Wave I have remained more mobile than respondents who either left the program or were never enrolled.

- A majority of respondents viewed their health positively. Non-participants, as a group, were no worse off than participants.

- Wave I self-reported poor health appears to predict enrolling in the program. Although based upon a small sample, Wave I non-participants who have since joined the program were in poorer health and were more likely to be bedridden due to illness during Wave I than Wave I non-participants who remained non-participants.

- Wave I self-reported poor health also predicts whether individuals are currently enrolled in congregate or home-delivery services. Those who are now home-delivered meal recipients were more likely to view their health in negative terms six years ago.

- Tracked Wave I participants are somewhat more likely to have been institutionalized since Wave I than tracked Wave I non-participants. This may be related to the fact that they were likely to be single and less likely to have someone they could rely upon in the event of illness.

B. Mobility

Table IV-10 presents the mobility characteristics of participant groups and their non-participating neighbors during Waves I and II.

Wave II data show that participants were more mobile than non-participants in three important ways. They more frequently left their homes (81% vs. 68%), were better able to go out of doors without help (90% vs. 84%), and were more likely to be able to clean and maintain their homes by themselves (89% vs. 85%). Respondent groups did not differ regarding the use of mobility restricting health aids in Table IV-10 (i.e. canes, walker or crutches, hearing aids).

Overall, the Wave II data show that despite their age (average = 73 years) participants were quite mobile and active and were more mobile than non-participants who were comparably old (average = 73 years). Furthermore, Wave II sampled participants are approximately as mobile as the Wave I sample of participants despite the fact that, as a group, the Wave II sample is older. For example, during Wave I about one-third (34%) of all congregate participants were 75 years of age or older, but during Wave II 41% were in this age group.

Thus, mobility is clearly related to participation in the congregate dining program. We suspect that increased mobility may be both a cause and effect of program participation. On the one hand, participation presupposes a certain degree of mobility and more mobile elderly persons may have fewer difficulties getting to sites. This is supported by the earlier finding that frequency of site attendance among current participants increases with better mobility.[1] However, once an elderly individual becomes an active participant, participation in the program may be the major factor responsible for getting that person out of his or her home on a more frequent basis. Thus, mobility enhances the likelihood of program participation and may help keep respondents more mobile in the long run.

---

[1]Mobility significantly predicted frequency of site attendance, F (14 and 1023 df) = 42.4, $p < .01$. See Appendix D for a description of the multivariate analytic technique.

TABLE IV-10

SELECTED MOBILITY CHARACTERISTICS OF RESPONDENTS
DURING WAVE I AND WAVE II

Characteristic	Wave II (Wave I in Parentheses)			
	Participants			
	Total N=1,735 (N=2,803)	Recent Entrants N=857 (N=1,831)	Longer-Term N=878 (N=972)	Non-Participants N=1,039 (N=1,797)
Get Out of House[1] Nearly Every Day	81% (78%)	79% (77%)	82% (79%)	68% (66%)
Can Go Out of[2] Doors With No Difficulty/ Without Help	90% (Not Available)	92% (Not Available)	89% (Not Available)	84% (Not Available)
Can Clean And[3] Maintain Home	89% (87%)	89% (87%)	90% (88%)	85% (85%)
Use Cane[4]	12% (12%)	12% (12%)	12% (13%)	13% (11%)
Use Walker/[4] Crutches	3% (3%)	2% (3%)	3% (2%)	5% (3%)
Using Hearing Aid[4]	6% (6%)	5% (6%)	8% (5%)	5% (4%)

[1] Participants were significantly more mobile than non-participants during Wave I (χ^2, 1 df, = 52.1, $p < .01$) and Wave II (χ^2, 1 df, = 79.8, $p < .01$).

[2] Participants were significantly more mobile than non-participants (χ^2, 1 df, = 21.3, $p < .01$).

[3] Participants were significantly more likely to be able to care for their homes by themselves than non-participants during Wave II (χ^2, 1 df, = 9.2, $p < .01$) but not during Wave I (χ^2, 1 df, = 3.7, $p > .05$).

[4] Wave I and Wave II participants and non-participants do not significantly differ (all χ^2, 1 df, < 3.8, p's > .05).

Wave-to-Wave comparisons of the data in Table IV-10 reveal that subgroups of interviewees have not substantially changed over the past six years. Similarly, participants were generally more mobile than their nonparticipating neighbors during Wave I.

The mobility characteristics of tracked and reinterviewed respondents will be presented in a later section.

C. Self-Reported Health and Institutionalization

All respondents were asked a series of questions regarding their current health status. These data are presented in Table IV-11.

Wave II data show that participants and non-participants had comparable perceptions of their health and were equally likely to have spent time in a hospital or nursing home during the past year (23% for both groups). Between 25-28 percent felt their overall health was fair or poor, nearly one-half of all respondents reported fair or poor eyesight, and fewer than one-fifth had been bedridden due to illness for more than a week during the past year. Small minorities of each respondent group felt that their overall health had declined during the past year (15%-16%).

Data for Wave I are similar in that no major differences in this category were observed between congregate dining participants and their non-participating neighbors. Wave-to-Wave comparisons reveal that the perceptions respondents had of their health have not changed appreciably since Wave I despite the fact that the Wave II sample consists of somewhat older persons.

Thus, the vast majority of respondents in both Waves felt their health was reasonably good.

Changes in the health perceptions of tracked and reinterviewed elderly respondents from Wave I are discussed in the next section.

TABLE IV-11

SELECTED HEALTH CHARACTERISTICS OF
RESPONDENTS DURING WAVE I AND WAVE II

Characteristic	Wave II (Wave I in Parentheses)			
	Participants			Non-Participants
	Total	Recent Entrants	Longer-Term	
	N=1,735 (N=2,803)	N=857 (N=1,831)	N=878 (N=972)	N=1,039 (N=1,797)
Self-Rated Health is Fair or Poor	25% (32%)	26% (33%)	24% (29%)	28% (33%)
Health Worse Than Last Year	16% (Not Assessed)	15% (Not Assessed)	16% (Not Assessed)	16% (Not Assessed)
Fair or Poor Eyesight	48% (50%)	47% (50%)	50% (51%)	46% (50%)
Fair or Poor Hearing	36% (37%)	33% (38%)	39% (36%)	33% (34%)
Bedridden For More Than A Week Due To Illness in Past Year	17% (21%)	18% (22%)	16% (18%)	16% (20%)
Spent Time in Hospital/Nursing Home in Past Year	23% (19%)	24% (21%)	22% (17%)	23% (18%)

[1] Participants and non-participants did not significantly differ during Wave II or Wave I on any item (all χ^2, 1 df, < 2.9, all p's > .05).

D. Status of Reinterviewed Respondents

Substantial efforts were made to track and reinterview as many Wave I respondents as possible to ascertain whether their mobility and self-reported health status had changed during the approximately six year period between Wave I and Wave II of the evaluation. Approximately 42 percent of tracked Wave I respondents were successfully reinterviewed.

Comparisons were made between four basic sub-groups of reinterviewed elderly respondents:

- Wave I Participants Who:
  - have remained participants, and
  - those who have left the program since Wave I

- Wave I Non-Participants Who:
  - have remained non-participants, and
  - those who have enrolled in the program since Wave I

The two basic questions addressed in the following section are: 1) are there observable differences between these four basic groups, and 2) are any differences related to continued program participation or having left or joined the program since Wave I?

1. Mobility of Reinterviewed Respondents

Discriminant function analyses[1] revealed two important mobility differences among reinterviewed respondents (see Table IV-12).

While each sub-group was comparably mobile during Wave I, those who had continued to participate or who had enrolled in the program since Wave I are now more mobile than respondents who had either never enrolled or had left the program since Wave I. Specifically, those who had continued to participate for six years (79%) or who had enrolled since Wave I (70%) are now more likely to leave their homes than either elderly persons who remained non-participants (62%) or those who had left the program since Wave I (62%).

Earlier we suggested that frequent program participation may itself be a major contributor to better mobility among elderly respondents sufficiently mobile to be able to get to their sites. Additional analyses in Table IV-13 tend to support this inference and illustrate other interesting results.

First, those who remained participants had been more frequent site attendees during Wave I than participants who eventually left the program (See Table IV-13; 63% vs. 43% attended at least three times per week, respectively).

In addition to demonstrating that attendance and mobility are positively related, these data also indicate that less frequent attendees are more likely to leave the program.

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[1]See Appendix Y, Z, and AA for a description of the analytic techniques.

TABLE IV-12

PERCENT OF REINTERVIEWED RESPONDENTS LEAVING THEIR[1] HOMES NEARLY EVERY DAY DURING WAVE I AND WAVE II

Reinterviewed Participants	Wave I[2]	Wave II[3]
Remain Participants[4]	77%	79% (N=298)
Have Left the Program	75%	62% (N=149)
Reinterviewed Non-Participants		
Remain Non-Participants	72%	62% (N=237)
Have Enrolled in the Program[4]	76%	70% (N=33)

---

[1]Source: Q. C1

[2]Wave I percentages do not significantly differ (χ^2, 3 df, = 2.0, $p > .05$).

[3]Wave II percentages significantly differ (χ^2, 1 df, = 9.2, $p < .05$). Respondents who have left the program or remained non-participants are now less mobile.

[4]Includes congregate dining participants and home-delivered meal recipients.

TABLE IV-13

PERCENTAGE OF RESPONDENTS ATTENDING MEAL SITES[1]
AT LEAST THREE TIMES PER WEEK DURING WAVE I

Reinterviewed Participants	Wave I[2]
Remain Participants	63% (N=249)
Have Left the Program	43% (N=149)

[1]Source: Q. A1:

[2]Percentages differ significantly (x^2, 1 df, = 14.4, p <.01).

2. Self-Reported Health Status of Reinterviewed Respondents

The relationships between self-reported health status and program participation were assessed in two complementary ways. The first analyses (Tables IV-14 and IV-15) assess whether self-reported Wave I health status is associated with enrolling in or leaving the congregate or home-delivery services since Wave I. The second analysis (Table IV-16) sought to identify changes in health perceptions associated with participation and non-participation.

Table IV-14 clearly shows that non-participants who have enrolled in the nutrition program since Wave I were more likely to have reported their health was "poor" during Wave I. Although only about 13 percent of reinterviewed Wave I non-participants joined the program, those who chose to do so were approximately twice as likely to have felt their health was "fair" or "poor" during Wave I than all other reinterviewed respondents (41% vs. 21-22% of other reinterviewed groups). During Wave II, those who had enrolled in the Services were no more likely to feel this way than other reinterviewed participants (i.e. 22% vs. 21%). Thus, the program has successfully reached that group of Wave I non-participating neighbors who could perhaps most benefit from the provision of nutritionally balanced meals and social aspects of the program.

Data in Table IV-15 show that self-reported Wave I health status also significantly predicts which service (i.e. congregate or home-delivery) reinterviewed respondents have selected. The small group who now receive home-delivered meals were more likely to have described their health as "fair" or "poor" during Wave I than those who now participate in the congregate dining service (i.e. 48% vs. 22%).

Thus, previous health status predicts enrollment in the program, and, more importantly, enrollment in the specific service that may be most suitable for elderly respondents.

Two other interesting health-related results were found. Multivariate analyses[1] revealed that among reinterviewed participants, those who left the program since Wave I were more likely to report their health had declined during the past year than those who have remained active program

[1] See Appendix Z for a description of the multivariate technique.

TABLE IV-14

WAVE I SELF-REPORTED HEALTH STATUS OF[1]
REINTERVIEWED RESPONDENTS BY CURRENT PROGRAM STATUS

Self-[2] Reported Health During Wave I	Remain Active in the Program (N=297)	Have Left the Program (N=151)	Remain Non-Participants (N=235)	Have Enrolled in the Program (N=34)
Excellent/ Good	57%	59%	58%	47%
Average	21%	19%	20%	12%
Fair/Poor	22%	22%	21%	41%
TOTAL	100%	100%	99%	100%

[1]Source: Q. D12: How would you rate your health generally at this time--excellent, good, average, fair, or poor?

[2]Percentages differ significantly (x^2, 1 df, = 6.0, $p < .05$). Non-participants who have enrolled in the program since Wave I were more likely than all others to have reported their health was "poor" during Wave I.

TABLE IV-15

WAVE I SELF-REPORTED HEALTH STATUS OF[1]
REINTERVIEWED RESPONDENTS CURRENTLY ENROLLED
IN CONGREGATE AND HOME-DELIVERY SERVICES

Self-Reported[2] Health During Wave I	Wave II Program Participation	
	Congregate Participant (N=304)	Home-Delivered Meal Recipient (N=27)
Excellent/Good	58%	33%
Average	20%	19%
Fair/Poor	22%	48%
TOTAL	100%	100%

[1]Source: Q. D12:

[2]Percentages differ significantly (χ^2, 1 df, = 7.9, $p < .01$). Those who are currently enrolled in the home-delivery service were more likely to report "poor" health during Wave I.

participants (25% vs. 16%, respectively).[1] A similar difference between these groups was also found for Wave I self-reported health. Thus, those who left the program were more likely to feel their health was declining both before they had left the program and after they actually left active participant rolls. In the Home-Delivery Service analytic chapter we suggested that because of their declining mobility and health status, former participants may be a potential service population for home-delivered meals. This analysis lends some support to this inference and suggests that reinterviewed participants who are now former participants may now meet health-related eligibility criteria used for screening and enrolling home-delivered meal recipients.

This section is concluded with presentation of the data in Table IV-16 displaying the percent of various reinterviewed groups who reported having been bedridden due to illness for more than a week during Wave I and Wave II. As can be seen, participation was not associated with this measure of general health during Wave II. However, reinterviewed non-participants who were to eventually enroll in the program reported being bedridden during Wave I for a longer period of time than any other group of reinterviewed respondents. No differences were observed during Wave II. These data are consistent with the finding that non-participants who joined were most likely to view their general health in "poor" terms during Wave I (see Table (IV-14).

[1] A statistically significant finding (F, 1 and 374 df, = 7.1, p <.01).

TABLE IV-16

PERCENT OF REINTERVIEWED RESPONDENTS BEDRIDDEN[1]
DUE TO ILLNESS FOR MORE THAN A WEEK
IN YEAR PRIOR TO WAVE I AND WAVE II

Reinterviewed Participants	Wave I[2]	Wave II[3]
Remain Participants	14%	17% (N=298)
Have Left the Program	23%	22% (N=149)
Reinterviewed Non-Participants		
Remain Non-Participants	15%	19% (N=237)
Have Enrolled in the Program	36%	18% (N=33)

[1]Source: Q. D3: During the past year, how much time altogether were you in bed all or most of the day because of illness or a health condition?

[2]Percentages differ significantly (χ^2, 1 df, = 7.0, $p < .01$). During Wave I, reinterviewed non-participants who have since joined the program were more likely to have been bedridden than all others.

[3]Wave II percentages do not significantly differ (χ^2, 3 df, = 2.2, $p > .05$).

3. Institutionalization of Tracked Respondents

The success with which the Nutrition Services have been helpful in preventing the institutionalization of elderly persons in long-term care facilities is a difficult issue to assess, since institutionalization may result from a complex interplay of health and social factors. Older persons may not always decide for themselves whether institutional care, home-care or another method is the best course of action when they are no longer able to independently care for themselves. In many instances, their children or relatives play an important role in the choice of which circumstances can best meet the needs of the elderly individual and the family. For those elderly individuals with no family, government may use yet different criteria to protect the interests of older persons. Thus, the reasons for institutionalization are as diverse as the priorities and values of those who must make this difficult decision.

In the course of tracking and attempting to reinterview Wave I respondents, substantial efforts were made to learn as much about the current status of these individuals as possible: e.g. whether they were deceased, had moved, or were institutionalized in long-term care facilities.[1] Multiple sources of information were used, including respondents' friends, relatives, neighbors, and program participants and staff.

Table IV-17 displays the percent of living tracked elderly respondents who were reported to be institutionalized.[2] None of these individuals were interviewed.

As can be seen, 7 percent of all living tracked respondents were reported to be residing in institutional settings. These data also show that tracked Wave I participants were more likely to have been institutionalized than tracked non-participating neighbors (8% vs. 4%, respectively).

---

[1] See the Methodology Appendix for a complete description of the current status of tracked individuals.

[2] See the Longevity section of this chapter for an analysis of tracked individuals' mortality.

TABLE IV-17

PERCENT OF TRACKED LIVING RESPONDENTS[1]
WHO HAVE BEEN INSTITUTIONALIZED SINCE WAVE I

All Tracked Respondents	7%	(N=1,047)
Tracked Participants[2]		
Total	8%	(N=637)
Recent Entrants	8%	(N=411)
Longer-Term Participants	9%	(N=228)
Tracked Non-Participants[2]		
Total	4%	(N=408)

[1]Respondents who were deceased, were not found, or whose current circumstances could not be ascertained are excluded from this table.

[2]Non-participants were significantly less likely to have been institutionalized than program participants. (χ^2, 1 df, = 7.0, $p < .01$).

This pattern is best interpreted in light of several important differences that distinguished participants from their non-participating neighbors during Wave I. Although both groups reported comparable health perceptions,[1] participants were significantly more likely to have lived alone (53% vs. 43%), and were more likely to have been single (66% vs. 57%) than non-participants.[1] Furthermore, participants reported they were less likely to have someone they could call upon for help if they became ill for a long period of time (76% vs. 79% of non-participants).[2] Finally, participants were more likely to report that none of their children lived close enough (i.e. within 45 minutes) so that they could fairly easily visit (26% vs. 20% of non-participants).

These data clearly show that participants were less likely to be part of support networks that could have reduced the likelihood of institutionalization. Their greater isolation made them better candidates for program participation, but the program cannot feasibly provide the same degree and quality of day-to-day assistance and support that families can.

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[1] See Table IV-11.

[2] See Table IV-21 in the Isolation and Social Contact section of this chapter.

SECTION D

PSYCHOLOGICAL WELL-BEING

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III. Introduction

In this section of the Impacts Chapter, data are presented regarding elderly respondents' assessments of their mood and psychological well-being. All data are based upon self-reports. We will describe the basic Service population and non-participants at two points in time: Wave I (1976) and Wave II (1982). A second major focus of this section is to attempt to assess whether respondents have benefited in terms of psychological well-being from long-term program participation. Specific analyses were conducted comparing responses of reinterviewed Wave I respondents to assess changes in their mobility and health status. Four important sub-groups of reinterviewed Wave I respondents were compared:

- Those who remained participants
- Those who have left the program since Wave I
- Those who have remained non-participants
- Those who have enrolled in the program since Wave I

The assessment of program impacts will rely primarily upon analyses of reinterviewed Wave I respondents. Although causal inferences regarding program impacts at two widely separated points in time are difficult, these analyses, because of their descriptive content, are informative.

A. Overview of Key Findings

- Participants had somewhat more positive perceptions of their general well-being than non-participants. This was also true during the earlier study (1976/77).

- Wave I well-being appears to predict enrollment in the program by non-participants. In some instances, Wave I non-participants who enrolled in the program felt worse during Wave I, but are now similar to other reinterviewed respondents. Program participation should not be discounted as one reason for their improved affective state.

B. Wave I and Wave II Findings

During Waves I and II of the evaluation, elderly respondents were asked to describe their mood, and sense of life satisfaction both in general terms and along a number of specific dimensions (e.g. loneliness, depression, boredom, restlessness, feeling pleased about accomplishments, etc.).

Two of the more important general indicators of psychological well-being are portrayed in Table IV-18: the percent of respondents reporting being in an "unusually good mood" and "looking forward to doing something in particular next week."

As can be seen, participants as a group were somewhat more likely than non-participants to have reported being in an "unusually good mood" on the day they were interviewed (61% vs. 55% of non-participating neighbors). This pattern of difference was also observed during the earlier study (Wave I in 1976/77).

Data in Table IV-18 show a similar pattern for the second global measure of well-being. During both Wave I and Wave II, program participants reported a more positive future orientation. Overall, respondents were looking forward to things such as:

- Visits with family and friends
- Trips
- A variety of activities such as gardening, fishing, and other hobbies, and
- A few participants remarked that it was the congregate meal that they were looking particularly forward to.

Although we cannot infer that better overall psychological well-being is a direct result of program attendance, these patterns tend to reinforce other differences between participants and non-participants which, in sum, could contribute to the differences observed in Table IV-18. Previous analyses have shown that, for their age, the sample of participants take an active stance toward life. They are more frequent attendees at religious services, are more likely to belong to clubs and other social organizations, and are more generally mobile than their neighbors who have not enrolled in

TABLE IV-18

SELECTED AFFECTIVE CHARACTERISTICS OF
RESPONDENTS DURING WAVE I AND WAVE II

Affective Characteristic	Wave II (Wave I in Parentheses)			
	Participants			
	Total	Recent Entrants	Longer-Term	Non-Participants
	N=1,735 (N=2,803)	N=857 (N=1,831)	N=878 (N=972)	N=1,039 (N=1,797)
In An Unusually[1] Good Mood On Day Interviewed	61% (56%)	61% (55%)	61% (58%)	55% (49%)
Respondent Is[2] "Looking Forward To Doing Something In Particular" Next Week	50% (47%)	46% (46%)	53% (49%)	43% (37%)

[1]Source: Q. F1
Participants were significantly more likely to be in an unusually good mood than non-participants during Wave I (χ^2, 1 df = 21.2, $p < .01$) and Wave II (χ^2, 1 df = 9.5, $p < .01$).

[2]Source: Q. F2
Participants were significantly more likely to be looking forward to something than non-participants during Wave I (χ^2, 1 df = 44.1, $p < .01$) and Wave II (χ^2, 1 df = 12.5, $p < .01$).

the Nutrition Services. Participants have generally positive perceptions of themselves and their lives, and program participation is undoubtedly a dimension that adds to the quality of their lives.

C. Status of Reinterviewed Respondents

Specific analyses were executed to ascertain whether changes in the self-reported psychological well-being of reinterviewed respondents was associated with remaining in the program, leaving it, or enrolling in either congregate or home-delivered meal service since Wave I.

Discriminant function analyses[1] showed that during Wave II, the four sub-groups of reinterviewed Wave I respondents did not differ on any affect dimension. Therefore, their responses reported in the earlier study six years ago were examined in some detail. Two interesting changes were found, and these data are contained in Tables IV-19 and IV-20.

Table IV-19 shows the percent of reinterviewed elderly respondents who reported feeling "particularly excited or interested in something during the past few weeks." Table IV-20 presents the percent who reported feeling "often or sometimes lonely or remote from other people during the past few weeks."

Both tables show stability of attitudes from Wave to Wave for all groups of reinterviewed elderly respondents except one: Wave I non-participants who have enrolled in the program since Wave I.

Although those who have joined the program are a small group (N=33 or only 12% of all reinterviewed Wave I non-participants), they reported better psychological well-being during Wave II. Specifically, they were less likely than all others to be "excited or interested about something" and more likely to "feel lonely" during Wave I. Since entering the program, however, they report feelings that are statistically comparable to other groups of reinterviewed elderly respondents.

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[1]See Appendix Y, Z, and AA for the results.

TABLE IV-19

PERCENT OF REINTERVIEWED RESPONDENTS[1]
OFTEN/SOMETIMES FEELING "PARTICULARLY EXCITED OR INTERESTED
IN SOMETHING DURING THE PAST FEW WEEKS"

Reinterviewed Participants	Wave I[2]	Wave II[3]
Remain Participants	70%	71% (N=298)
Have Left the Program	61%	64% (N=149)
Reinterviewed Non-Participants		
Remain Non-Participants	63%	61% (N=237)
Have Enrolled in the Program	42%	67% (N=33)

---

[1]Source: Q. F9c: During the past few weeks, have you felt particularly excited or interested in something often, sometimes, rarely, or never?

[2]Reinterviewed non-participants who eventually joined in the program were significantly less likely to report feeling "particularly excited" than all others during Wave I (x^2, 2 df, = 6.3, $p < .05$).

[3]Percentages do not significantly differ during Wave II (x^2, 3 df, = 5.5, $p > .05$).

TABLE IV-20

PERCENT OF REINTERVIEWED RESPONDENTS[1]
OFTEN/SOMETIMES FEELING "LONELY OR REMOTE FROM OTHER PEOPLE
DURING THE PAST FEW WEEKS"

Reinterviewed Participants	Wave I[2]	Wave II[3]
Remain Participants	28%	27% (N=298)
Have Left the Program	26%	28% (N=149)
Reinterviewed Non-Participants		
Remain Non-Participants	22%	21% (N=237)
Have Enrolled in the Program	48%	36% (N=33)

[1]Source: Q. F9h: During the last few weeks, have you felt lonely or remote from other people often, sometimes, rarely, or never?

[2]Reinterviewed non-participants who eventually joined in the program felt lonely significantly more often during Wave I than all others (χ^2, 1 df, = 8.1, $p < .01$).

[3]Percentages do not significantly differ during Wave II (χ^2, 3 df, = 6.0, $p > .05$).

The effect of program participation cannot be discounted as one reason for better affective state reported by those who have enrolled. However, it should be noted that during Wave I, this small sample of Wave I non-participants had apparently experienced health problems resulting in being bedridden for a longer period than others (see Table IV-16). Thus, their lack of interest in the world around them and lonely feelings may have been strongly connected with their Wave I health status. As was shown earlier (see Table IV-16), enrollees are now no more likely to be bedridden than other reinterviewed elderly respondents. Improved health and the activity and social opportunities afforded by the program experience may together have enhanced their subjective sense of well-being.

SECTION E

ISOLATION AND SOCIAL CONTACT

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IV. Introduction

One of the major goals of the Nutrition Services is to help reduce social isolation that may characterize less mobile, older Americans. In this section of the Program Impacts Chapter, data are presented regarding respondents' social activity and isolation. We will describe the basic Service population at two points in time: Wave I (1976/77) and Wave II (1982). Secondly, we will describe findings for reinterviewed Wave I respondents. Four important sub-groups of reinterviewed respondents were compared:

- Those who remained participants
- Those who have left the program since Wave I
- Those who have remained non-participants
- Those who have enrolled in the program since Wave I

The assessment of program impacts will rely primarily upon analyses of reinterviewed Wave I respondents. Although causal inferences regarding program impacts at two widely separated points in time are difficult, these analyses, because of their descriptive content, are informative.

A. Overview of Key Findings

- Participants are more likely to be socially isolated than non-participating neighbors in that they are more likely to be single and live alone. A similar result was found during the earlier study.

- Participants are also more likely to be members of clubs and social organizations during Wave I and Wave II.

- These data suggest that program participation and club membership may help isolated elderly individuals stave off feeling isolated and lonely.

B. Wave I and Wave II Findings

In the descriptive portion of this report (Volume III) we emphasized that participants were good candidates for the Nutrition Services. On the one hand, they were more likely to be single or live alone than non-participants, but were also more active socially than their non-participating neighbors. Participants seem to find the congregate dining experience quite pleasant.

Table IV-21 presents data that expand upon the exhaustive profiles of participants and non-participating neighbors to be found in Volume III (Descriptive Report) along numerous dimensions directly related to social isolation. Although participants and their non-participating neighbors were comparable in many ways, some interesting differences can be observed in these data.

First, during both Waves of the evaluation, participants were more likely both to be single and to live alone.

Second, although participants were somewhat more involuntarily isolated, they were more likely to be members of clubs and other social organizations during the earlier study (1976/77) and during Wave II (1982).

Third, an interesting pattern can be observed for one other characteristic. Respondents were asked if they had "... someone who could help (them) if they became ill for a long period of time." During Wave II participants and non-participants were comparably likely to have such a person available if necessary; but during Wave I participants were less likely to have this kind of person available to them than their non-participating neighbors (i.e. 76% vs. 79%). It is possible (although it cannot be proved) that through their past few years of program participation, congregate dining participants have found others (e.g. staff and/or fellow participants) who could be of help if they needed them. Interestingly, when participants were queried about who that person would be, a few mentioned congregate site staff.

TABLE IV-21

SELECTED CHARACTERISTICS OF RESPONDENTS
DURING WAVE I AND WAVE II

Characteristic	Wave II (Wave I in Parentheses)			
	Participants			Non-Participants
	Total	Recent Entrants	Longer-Term	
	N=1,735 (N=2,803)	N=857 (N=1,831)	N=878 (N=972)	N=1,039 (N=1,797)
Live Alone[1]	55% (53%)	53% (51%)	57% (58%)	46% (43%)
Not Currently Married[1]	66% (67%)	65% (65%)	66% (72%)	57% (57%)
Have Someone To Confide In	97% (95%)	96% (95%)	98% (96%)	98% (96%)
Haved Someone Who[2] Could Help Them If They Became Ill For A Long Period of Time	81% (76%)	82% (76%)	81% (76%)	83% (79%)
Belong To A[1] Club or Social Organization	46% (42%)	42% (41%)	51% (43%)	30% (28%)
Often/Sometimes Felt Lonely During Past Few Weeks	26% (Not Available)	28% (Not Available)	25% (Not Available)	23% (Not Available)
Have Too Few Friends	19% (Not Assessed)	23% (Not Assessed)	16% (Not Assessed)	17% (Not Assessed)

[1]Participants were significantly different from non-participants along these dimensions during Wave I (all χ^2, 1 df, > 43.4, all p's < .01) and during Wave II (all χ^2, 1 df, > 20.6, all p's < .01).

[2]Participants were less likely than non-participants to have someone they could rely upon if they became ill during Wave I (χ^2, 1 df, = 5.5, $p < .05$), but not during Wave II (χ^2, 1 df, = 1.6, $p > .05$)

That the congregate Service helps meet the social needs is underscored by one basic finding from the descriptive portion of this report (Volume III). The more time participants spent socializing with their peers at their site, the more frequently they attended sites.[1]

Another way of assessing the relationship between isolation and participation is to ascertain whether more isolated elderly persons more frequently used various supportive services. Respondents were classified on an isolation index as "less," "more," or "extremely" isolated by examining their responses to several questions. Those classified as "extremely" isolated were defined as:

- Living alone
- Reporting having too few friends
- Having no one they could confide in
- Having living children who do not visit them, and
- Feel lonely more often.

Although degree of social isolation did not predict frequency of site attendance, it was significantly associated with utilization of site shopping assistance among those who said it was available. Extremely isolated participants were more likely to avail themselves of this supportive service than less isolated persons (61% vs. 50%).[2] Thus, this aspect of the program may be particularly helpful to and valued by those who are among the most isolated elderly participants.

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[1] Multiple regressions yielded a significant finding (F, 14 and 1,023 df, = 22.3, $p < .01$). See Appendix D.

[2] Multiple regressions yielded a signiticant finding (F, 14 and 1,029 df, = 8.3, $p < .01$). See Appendix M.

C. Status of Reinterviewed Participants

Substantial efforts were made to track and reinterview as many Wave I respondents as possible to ascertain whether their degree of social isolation was related to participation. Approximately 42 percent of Wave I respondents were successfully reinterviewed.

Comparisons were made between four basic sub-groups of reinterviewed elderly respondents:

- Wave I Participants Who:
  - have remained participants, and
  - those who have left the program since Wave I

- Wave I Non-Participants Who:
  - have remained non-participants, and
  - those who have enrolled in the program since Wave I

Discriminant function analyses[1] revealed two basic results that expand upon findings discussed earlier in this section. During Wave II, participants who had remained in the program were more likely to be socially isolated (as measured in the isolation index described earlier) than elderly respondents who had remained non-participants since the earlier study.[2]

Secondly, participants who remained active in the program were more likely to be members of clubs and other social organizations than those who have never formally enrolled in the Nutrition Services.

Thus, although continuing participants were more isolated, they seem to take an active part in community social life. We feel that their continued participation indicates two important things about the program.

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[1] See Appendix Y, Z, and AA.

[2] A significant finding (F, 1 and 422 df, = 7.5, $p < .01$). See Appendix Y.

First, the Service continues to reach those who tend to be involuntarily socially isolated (e.g. by virtue of being widowed or far from family members). The opportunities for social interaction and companionship afforded by the program may have something to do with the fact that these long-term active participants do not feel any lonelier than their less isolated non-participating neighbors (see Table IV-20 in Section D of this chapter: Psychological Well-Being).

Second, these long-term participants seem to be "joiners" as evidenced by the fact that they are more likely to be members of clubs and social organizations. Their relatively greater desire for social contact may play a major role in the decision to enroll and continue to participate in the program.

SECTION F

INCOME AND PERCEIVED INCOME SUFFICIENCY

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I. Introduction

In this section of the Impacts chapter, data are presented regarding elderly respondents' self-reported family income and how well they felt their incomes took care of their needs.

The basic questions that will be addressed in this section include:

- Does the program reach people with low incomes who feel their incomes less adequately take care of their needs?

- Does program participation appear to be related to better perceived income sufficiency?

The basic Service population will be described along these important dimensions at two points in time: Wave I (1976/77) and Wave II (1982). As was done in other sections of the Impacts chapter, specific analyses were conducted of reinterviewed Wave I respondents to assess changes in their income and perceived income sufficiency. Four important sub-groups of reinterviewed Wave I respondents were compared:

- Those who remained participants
- Those who left the program since Wave I
- Those who have remained non-participants
- Those who have enrolled in the program since Wave I

A. Overview of Key Findings

- The program successfully reaches low income elderly persons. Participants were more likely to have low incomes than non-participants during 1976/77 and 1982 phases of the study.

- However, congregate participants were no more likely to feel their income was insufficient than more affluent non-participants. Whether this is due to program participation cannot be directly confirmed, but it is a possibility.

- Home-delivered meal recipients were somewhat poorer than all others and were most likely to feel their incomes took care of their needs "poorly."

- Reinterviewed respondents who had lower incomes during Wave I were more likely to remain participants or join the program.

B. Wave I and Wave II Findings

Table IV-22 presents the distribution of respondents' annual family incomes during Wave I and Wave II.

Wave II income data reveal that over one-half (52%) of congregate participants and nearly two-thirds (65%) of home-delivered meal recipients had 1981 incomes below $6,000. It is apparent that respondent incomes have increased since Wave I. For example, during Wave I 19 percent of the congregate participant sample had annual 1975 incomes below $2,000; however, for Wave II (1981 income) only 3 percent were in this income group. Although many respondents are on fixed incomes, the past few years of high inflation (annual inflation averaged 10.1% from December, 1976 - December, 1981), pension and other benefits linked to inflation may have helped a number keep pace with rising costs.

During the earlier Wave of this evaluation study "low" income elderly persons were defined as those whose 1975 annual incomes were below $4,000. This figure was somewhat lower than the income level defined as a "lower budget" ($4,695) for a retired couple during the fall of 1976 by the Bureau of Labor Statistics.[1] A similar approach was taken during Wave II. A 1981 annual income below $6,000 was defined as "low." Again, this figure is a reasonably conservative indicator of "low" income, as it is below that figure cited by the Bureau of Labor Statistics as a "lower budget" ($7,226) for a retired couple in the autumn of 1981.[2]

Table IV-23 portrays the proportion of elderly respondents who were classified as having "low" income during both Waves of the evaluation. These data very clearly show that the program has successfully reached low income elderly persons. During both phases of the study, participants were more likely to have low incomes than their neighbors who had not enrolled. Moreover, home-delivered meal participants are among those with the lowest incomes.

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[1] These figures are available from the National Clearinghouse on Aging's Statistical Notes, No. 1, February, 1978. Publication No. (OHDS) 78-20040.

[2] See Bureau of Labor Statistics News, July 30, 1982.

TABLE IV-22

INCOME DISTRIBUTION OF RESPONDENTS[1]
DURING WAVE I AND WAVE II

Annual Family Income	Wave II (Wave I in Parentheses)				
	Participants			Home-Delivered Meal Recipients	Non-Participating Neighbors
	Total	Longer-Term	Recent Entrants		
	N=1,735 (N=2,803)	N=878 (N=972)	N=857 (N=1,831)	N=415 (N=0)	N=1,037 (N=1,797)
Less than $2,000	3% (19%)	3% (22%)	4% (17%)	7% (Not Assessed)	3% (15%)
$2,000-$3,999	23% (47%)	26% (50%)	20% (45%)	31% (Not Assessed)	21% (40%)
$4,000-$5,999	26% (17%)	26% (14%)	26% (19%)	27% (Not Assessed)	22% (19%)
$6,000-$9,999	23% (11%)	22% (10%)	24% (12%)	24% (Not Assessed)	22% (14%)
$10,000-$13,999 ($10,000 or More)[2]	10% (5%)	10% (3%)	10% (6%)	5% (Not Assessed)	13% (11%)
$14,000-$17,999	6%	5%	7%	1% (Not Assessed)	6%
$18,000-$21,999	2%	2%	2%	* (Not Assessed)	3%
$22,000 or More	3%	2%	3%	1% (Not Assessed)	6%
Refused/No Response	4% (1%)	4% (1%)	4% (1%)	4% (Not Assessed)	4% (1%)
TOTAL	100% (100%)	100% (100%)	100% (100%)	100% (Not Assessed)	100% (100%)

[1]Source: Q. I9: For statistical purposes we need to know your family income for 1981. Please give me the letter (FROM CARD C) that covers your total family income for 1981, before taxes. Include your own income and that of any members of your immediate family who are living with you. Just give me the letter.

Wave I data reflects self-reported or estimated annual family income for 1975. Wave II data reflects self-reported or estimated annual family income for 1981.

[2]"$10,000 or More" was the highest income category used during Wave I.

*Denotes less than 1%.

TABLE IV-23

PERCENT OF RESPONDENTS WITH LOW INCOMES[1]
DURING WAVE I AND II

Wave I[2] (1975 Family Income)	Participants (N=2,803)	Home-Delivered Meal Recipients (N=0)	Non-Participants (N=1,797)
Below $4,000	67%	Not Assessed	55%
Wave II[2] (1981 Family Income)	(N=1,735)	(N=415)	(N=1,039)
Below $6,000	52%	65%	46%

[1]Source: Q. I9

[2]Participants were significantly more likely to have low incomes during Wave I (χ^2, 1 df, = 66.8, $p < .01$) and participants and home-delivered meal recipients had lower incomes then non-participants during Wave II (χ^2, 1 df, = 43.1, $p < .01$).

All respondents were asked how well their incomes took care of their needs. Interestingly, annual income was only modestly (albeit significantly) correlated with perceived income sufficiency.[1] Thus, elderly respondents who had low incomes were slightly more likely to feel their incomes were less adequate to take care of their needs. Among elderly persons, income alone does not assure an adequate or enjoyable lifestyle.

The lack of strong correspondence between income and perceived income sufficiency is highlighted by the data contained in Table IV-24. Despite the income differences between congregate participants and their non-participating neighbors (Table IV-23), congregate participants and non-participants differed neither during Wave I nor Wave II regarding the perceived adequacy of their incomes. For example although 52 percent of Wave II participants had "low" incomes (i.e. below $6,000), only 13 percent felt their income poorly took care of their needs.

Two other interesting findings can also be found in Table IV-24. First, the percent of respondents who reported their incomes poorly took care of their needs has declined somewhat. But, more importantly, home-delivered meal recipients were least likely to feel their incomes were adequate. These individuals were also the least mobile and in the poorest health of all respondents interviewed (see Home-Delivery Analytic Chapter). Thus, it is likely that how well people feel their incomes take care of their needs is a good overall measure of how people feel about the quality of their lives in general.

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[1] e.g. $r = -.33$, $df = 1,637$, $p < .01$ for congregate participants.
$r = -.08$, $df = 3,382$, $p < .01$ for all respondents.

TABLE IV-24

PERCENT OF RESPONDENTS FEELING[1]
THEIR INCOMES TOOK CARE OF THEIR NEEDS
ONLY POORLY IN WAVE I AND WAVE II

Percentage	Participants	Home-Delivered Meal Recipients	Non-Participants
Wave I[2]	18% (N=2,803)	Not Assessed	16% (N=1,797)
Wave II[3]	13% (N=1,735)	21% (N=415)	14% (N=1,039)

[1]Source: Q. H2: How well does the amount of money you have take care of your needs--very well, fairly well, or poorly?

[2]Wave I percentages do not significantly differ (χ^2, 1 df, = 2.9, $p > .05$).

[3]Wave II percentages significantly differ (χ^2, 1 df, = 16.3, $p < .01$). Home-delivered meal recipients were more likely to feel their incomes took care of their needs poorly than all other respondents.

C. Status of Reinterviewed Respondents

Specific analyses were executed to ascertain whether changes in income and perceived income sufficiency were associated with remaining in the program, leaving it, or enrolling in the Nutrition Services since Wave I.

Discriminant function analyses[1] revealed that neither income nor perceived income sufficiency significantly distinguished between the four sub-groups of reinterviewed Wave I respondents. Therefore, their responses reported in the earlier Wave of the study during 1976/77 were examined in detail. Two interesting patterns were found and they are illustrated in Table IV-25 and IV-26.

Table IV-24 shows the percentages of reinterviewed elderly respondents who had "low" incomes during Wave I and Wave II. Although no significant differences were obtained during Wave II, an interesting difference was found from the earlier study. Specifically, "low income" appears to predict both remaining in the program and enrolling in the program since Wave I. During Wave I, those elderly who remained active participants and the small sample of non-participants who eventually enrolled were significantly more likely to have low incomes (58% and 61%, respectively, vs. 43%-55% of other reinterviewed respondents).

Table IV-26 presents the percent of each of the reinterviewed groups who felt their incomes took care of their needs only poorly during Wave I and Wave II. Although no differences can be observed for Wave II, during Wave I elderly respondents who left the program were significantly more likely to feel their incomes took care of their needs only poorly. They felt this way despite the fact that they were about as likely to have "low" incomes as those elderly who remained active participants (see Table IV-24). Although, we cannot directly ascertain why they felt this way, these perceptions expand somewhat on findings in the Contributions Analytic Chapter in this volume that former participants were more likely to feel that their sites charged them for meals, and were less likely to feel that the Service had saved them money. This raises the possibility that individuals may have left the program due to low perceived financial resources and a feeling that sites charged. This issue will receive further attention in the Contributions Analytic chapter (Chapter VI in this volume).

[1] See Appendices Y, Z, and AA for the results.

TABLE IV-25

PERCENT OF REINTERVIEWED RESPONDENTS[1]
WITH LOW FAMILY INCOMES

Reinterviewed Participants	Wave I[2] (Below $4,000)	Wave II[3] (Below $6,000)
Remain Participants	58%	55% (N=298)
Have Left the Program	55%	60% (N=149)
Reinterviewed Non-Participants		
Remain Non-Participants	43%	50% (N=237)
Have Enrolled in the Program	61%	64% (N=33)

---

[1]Source: Q. I9

[2]Respondents who remained in the program and those who eventually joined were more likely to have low incomes during Wave I (χ^2, 1 df, = 7.7, $p < .01$).

[3]Continuing participants and new enrollees did not differ from those who left the program or remained non-participants during Wave II (χ^2, 1 df, = 0.2, $p > .05$).

TABLE IV-26

PERCENT OF REINTERVIEWED RESPONDENTS[1]
FEELING THEIR INCOMES TOOK CARE OF THEIR NEEDS POORLY

Reinterviewed Participants	Wave I	Wave II
Remain Participants	11%	9% (N=298)
Have Left the Program	18%[2]	16% (N=149)
Reinterviewed Non-Participants		
Remain Non-Participants	11%	11% (N=237)
Have Enrolled in the Program	3%[3]	12% (N=33)

---

[1]Source: Q. H2

[2]Those who eventually left the program were significantly more likely than all others to report poor income sufficiency during Wave I, (χ^2, df = 1, = 5.6, $p < .05$).

[3]This group cannot be statistically compared with others, as expected cell frequencies are too small.

SECTION G

LONGEVITY

Earlier we reported on the degree to which tracked respondents from Wave I were likely to have become institutionalized in long-term care facilities. Here, we present an analysis of the longevity of tracked Wave I respondents. It is of considerable interest to ascertain whether participants were likely to live longer than other comparable respondents.

In the course of tracking and attempting to reinterview Wave I respondents, substantial efforts were made to learn as much about the current status of these individuals as possible.[1] Multiple sources of information were used: respondents' friends, relatives, neighbors, and program participants and staff.

Table IV-27 presents the longevity analysis for various groups of tracked respondents.

As can be seen, when age, minority status, sex, and self-reported Wave I health are controlled for, program benefits are not apparent. However, the better the self-reported health during Wave I, the more likely elderly individuals were to survive to or beyond their life expectancy.

These data should not be interpreted to mean that program participation is of no benefit when evaluated in terms of longevity. To the extent that active participation enhances social activity or maintains positive self perceptions of an elderly person's health status, it may add greatly to the quality of life in the twilight years of respondents' lives. That participation itself helps sustain the quality of life is undeniable. Whether it actually prolongs life is an hypothesis awaiting confirmation.

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[1] See the Methodology Appendix for a complete description of the current status of tracked individuals.

TABLE IV-27

PERCENT OF TRACKED WAVE I RESPONDENTS[1]
SURVIVING TO OR BEYOND LIFE EXPECTANCY
BY WAVE I SELF-REPORTED HEALTH

Wave I[2] Self Reported Health Status	Participants			Non-Participants
	Total	Recent Entrants	Longer-Term	
Excellent or Good	83% (N=449)	84% (N=283)	83% (N=166)	88% (N=258)
Average	77% (N=173)	75% (N=110)	79% (N=63)	83% (N=105)
Fair or Poor	67% (N=231)	68% (N=158)	63% (N=73)	76% (N=144)

[1]Respondents who were not found or whose current status could not be ascertained are excluded from this analysis. Life expectancy was adjusted for sex, age, and minority status. See Vital Statistics of the United States: 1976 (volume I - Mortality, part A), Center For Health Statistics, Hyattsville, MD., 1980.

[2]Longevity was positively associated with Wave I self-reported health for all respondents (χ^2, 2 df = 33.3, $p < .01$). Regardless of self-reported health, participants and non-participants did not significantly differ in terms of longevity in any of the three health groups (all χ^2, 1 df, < 3.0, all p's > .05).

CHAPTER V

SUPPORT SERVICES

A. Introduction

In addition to providing at least one nutritionally balanced meal and social opportunities for older Americans, nutrition meal sites are encouraged to provide certain supportive services if needed and not otherwise available to participants.

Federal regulations identify these supportive services as nutrition education, recreation, transportation, escort services, shopping assistance, counseling, and information and referral to outside agencies.

This chapter discusses the range of supportive services found to be available to congregate participants and their awareness and utilization of such support services. Awareness of and utilization of support services by participants enrolled in the Home-Delivered Service component of the Nutrition Services are discussed separately in the final chapter (Home-Delivery Service) of this volume of the Final Report.

The material in this chapter is based upon interviews with several levels of program management as well as participants themselves. The views of program management and staff are presented first, perceptions of program participants follow.

B. Overview of Key Findings

- When asked to rank participants' needs for various support services, Area Agency directors ranked social opportunities as high as improved nutrition. Education and information were felt to be of somewhat lower priority.

- At some sites, Nutrition Service directors noted that lack of funding prevents the provision of needed support services (e.g. shopping assistance, legal aid, in-home services).

- There is some discrepancy in estimates of service availability provided by various levels of program management. Participants are less aware of the availability of most support services (except recreation) than management estimates of availability would indicate. Services tend to be utilized by those participants who tend to most need them.

- Nutrition Education

  Although staff reported this service is offered at nine of ten sites, over one-half scheduled it once a month or less frequently.

  In half of the sites, 59 percent or less of participants were aware of it, indicating that lack of awareness is spread across all sites. A majority of aware participants had taken part in these activities.

- Recreation and Social Activities

  Staff reported that 93 percent of sites offer recreational activities, and the vast majority of participants are aware of them (86%).

  Two-thirds of participants who are aware of these activities take part, making them the most popular of all site services.

- Transportation

  Staff reported that transportation is available at 84 percent of sites sampled. It is used for carrying participants to the site, helping participants do grocery shopping or obtain health care, and for recreation activities.

  About one-fifth of participants rely upon this service to get to sites. Other participants experience little difficulty getting to sites.

- Shopping Assistance

  Staff reported that shopping assistance (i.e. helping participants grocery shop) is available at about two-thirds of sites and volunteers play an important role in providing this assistance.

  Participant awareness of this service was not widespread. At three-quarters of sites, 37 percent or fewer were aware of its availability. However, of those who were aware of it, one-half had utilized it. Users tended to be those in most need of this assistance (i.e. more isolated and poorer).

- Medical Information and Referral

  Staff report that medical information and referral are available at 80 percent sites, although at half the sampled sites one-half or fewer participants were aware of them.

  About one-half of aware participants had utilized these services and they tended to be people who could benefit from them (i.e. those with lower education and who led more "isolated" lives).

C. Need for Support Services - The View from Service Administrators

Area agency directors were asked about the needs for a variety of services for older persons and they also were asked to rank-order the relative severity of needs for a smaller number of services.

In the first approach, the area agency directors were asked what percentage of those who needed services were receiving them. Thirteen domains of service were investigated and are listed in Table V-1, arranged in increasing order of reported need (decreasing order of current coverage), according to the area agency directors. Of these domains, the availability of medically-oriented services is judged relatively high. Information and referral service and opportunity for recreation also are judged to be available to most of those who need such services. Unmet need is significantly more for congregate and home-delivered meal services and for many other support services of interest to Title III administrators, such as, transportation, counseling and other mental health assistance, and assistance in one's home.

Area agency directors had difficulty making estimates of the percentages of needy persons who were receiving given services. Follow-up calls revealed considerable instability of individual estimates, but reasonable stability of the average estimates for each service. Therefore, while the mean values in Tables V-1 are useful, the corresponding data for individual nutrition service areas were not used in any analyses of differences among service providers.

The second approach to assessing need for services was to have area agency directors rank the severity of four domains of need within their areas. Table V-2 summarizes these rankings. The needs for improved nutrition and for social contact are viewed as foremost in severity, both in terms of average rank and in terms of number of times ranked most severe. Needs for education and information and for exercise and mobility assistance are viewed as secondary. This pattern generally confirms the pattern of percentage estimates in Table V-1.

TABLE V-1

NEEDS FOR SERVICES, ACCORDING TO AREA AGENCY DIRECTORS

Service	Directors Responding	Percent of Elderly Served	
		Mean	Std. Dev.[1]
Hospital Care	53	80%	31%
Outpatient Health Care	53	79	28
Information and Referral	58	77	29
Nursing Home Care	51	69	36
Recreation	59	69	31
Legal Services	55	64	36
Congregate Meals	60	62	33
Transportation	59	61	32
Regular Telephone Contact	54	60	36
Homebound Meals	57	52	33
Counseling, Mental Health Care	55	51	36
Homemaking, Chore Services	53	50	35
Housing Services	48	49	30
AVERAGE (unweighted)	55	63%	33%

[1]Using the average number of respondents regarding a given service (55) and the average standard deviation of the respondents' estimated percentages (33%), a standard error of the means can be approximated at 4%. This indicates that the true mean percent of elderly receiving one of the above services can be assumed to fall somewhere within a 16% range around the above sample mean(s), with 95% confidence. Stated another way, the various means in this table probably are not significantly different from one another unless they differ by more than 16 percentages points.

TABLE V-2

RELATIVE SEVERITY OF NEED FOR SERVICES[1]

	Index of Severity	
Domain of Need	Mean Rank	Times Ranked Most Severe
Improved Nutrition	1.9	43%
Social Contact	1.9	39
Education & Information	3.0	10
Exercise and Mobility	3.2	8

[1]The four domains of need were ranked by area agency on aging directors: 1=most severe need, 4=least severe.

D. Availability of Support Services According to Service Personnel

Given the area agency directors' confirmation of need for meal and non-meal support services among the elderly, how available are such services in the geographic areas served by the 70 sample nutrition providers?

Table V-3 examines the availability of a large number of services within (a) the areas served by the nutrition providers and (b) the smaller areas served by the sample meal sites. The table also compares the responses of three levels of staff members: the area agency director, the nutrition service director, and the congregate meal site manager. Not all staff positions were asked about each service, so only about half of the cells in the table have entries.

The perceptions of service availability appear to be slightly higher on the part of the area agency directors than on the part of the nutrition service directors. The perceived availability of services in the sample site areas also is less than the availability in provider areas, reflecting the belief that for an appreciable number of providers a service is available at some, but not all, of their meal sites. The site managers' opinions about service availability do not differ significantly from the service providers' opinions. The table also indicates that all of the services (with the possible exception of escort) are perceived as available through at least half of the sites, and most services are available through a substantially higher proportion of sites.

Another view of service availability can be obtained by counting the number of support services said to be available at individual sites. This was done for seven of the services listed in Table V-3: transportation, escort, shopping assistance, nutrition education, information and referral, counseling, and medical-health services.

Most sites are said to provide most services. All seven services are reported as available at 31% of the sites. Six of the services are said to be available at 16% of the sites. Thus, about half of the sites are

TABLE V-3

AVAILABILITY OF VARIOUS SUPPORT SERVICES TO TITLE III PARTICIPANTS

Service According To	Percent of Areas Where Service is Available[1]			
	Available at Least Somewhere Within Provider's Service Area		Available in Area of Sample Site	
	AAA Director	Nutrition Director	Nutrition Director	Site Manager
Transportation	100%	96%	84%	82%
Escort	/////	69	60	46
Shopping Assistance	/////	67	60	67
Nutrition Education	/////	97	97	89
Recreation	100	83	81	93
Information and Referral	100	89	86	86
Counseling	96	86	80	80
Health Services Through Provider	/////	84	80	/////
Outpatient Health Care	93	/////	/////	/////
Hospital Care	100	/////	/////	/////
Nursing Home Care	90	/////	/////	/////
Housing Services	94	/////	/////	/////
Regular Telephone Contact	97	/////	/////	/////
Homemaker/Chore Service	90	/////	/////	/////
Legal Services	100	/////	/////	/////

[1]The working of questions about support services differed among the area agency director, nutrition service director, and site manager questionnaires. Some of the discrepancy in percentage values for a given service may be due to the differences in wording.

reported to be close to "full service". Five of the seven services are said to be available at 20% of the sites; four services are said to be available at another 13%. At the other extreme, only two sites (3% of the sample) report one support service available; only 6% of the sites indicated just two services available. The median number of services reported as available in the sample sites is five out of seven.

Nationwide, then, the balance appears to be in the direction of most services being available through most meal sites. Among the seven services examined, escort, shopping assistance, and counseling are the least likely to be available to Title III participants.

Nutrition service directors also were asked about other support services needed but unavailable. The most prevalent responses (11 directors) concerned personal assistance, such as shopping assistance, escort, legal aid, and counseling. Ten directors noted the need for more transportation for elderly, even though they already had discussed this service. Nine directors cited services in the homes of older persons as a prime area of need, mentioning homemaker or chore service, home repair, and in-home recreational aid as examples. Other services noted as unavailable were medical and dental treatment, counseling, day care, crisis intervention, and assistance dealing with crime and crime prevention. This pattern of unavailable services is roughly the inverse of the pattern of services cited as available, earlier. By far, the principal reason why services are unavailable, according to the directors, is lack of funds.

E. Characteristics of Support Service Delivery

Detailed information was gathered about policies and methods of providing the first seven support services listed in Table V-3.

1. Transportation Service

Transportation appears to be available for Title III participants at 84% of the congregate meal sites. According to site managers, transportation is most often available to carry participants to and from meal service, grocery shopping, personal health care, and recreation activities, in decreasing order. Twenty percent of participants reported that they utilized special site transportation to get to sites. Those who attended sites established before 1975 were more likely to be picked up by site-provided transportation than those who attended pre-1975 sites (27% vs. 14%).[1] Overall, the vast majority (89%) of current congregate dining participants reported "no trouble" getting to their sites. Those who attended pre-1975 sites had a bit less trouble than those attending post-1975 sites (86% and 93% had "no trouble", respectively).[2] This difference, had little overall impact on site attendance, as those attending pre- and post-1975 sites attended comparably often.

Transportation frequently also can be used to attend advisory council meetings, and at some sites can be used for banking and bill-paying trips, attending church, and for other personal activities such as visitation, grooming, or education. Where available, transportation usually is scheduled five days per week and most often must be arranged on the day needed or at most one day ahead.

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[1] A significant finding (χ^2, 1 df, = 38.6, $p < .01$).

[2] A significant finding (χ^2, 1 df, = 21.5, $p < .01$).

Most transportation providers (70%) now use buses or vans rather than personal cars. Many vehicles (61%) are equipped for handicapped riders. Ownership of transport vehicles is diverse: 42% are owned by some government unit, 37% by the nutrition provider, and 11% by other agencies. Sixteen percent of the vehicles are privately owned, by staff or volunteers. These vehicles are driven by paid provider staff at 51% of the sites, by volunteers (40%), or drivers paid by other agencies (33%). About 6% of the sites contract for transportation with commercial agencies such as taxi companies. The most pervasive need seen to improve transportation services is money for more vehicles, drivers, and equipment for handicapped riders.

2. Escort Service

According to site managers, escort service differs from mere transportation by adding assistance in getting dressed, walking, and carrying packages. Escort tends more often to use specialized vehicles or personal vehicles and tends also to allow a more personalized choice of schedule and destination.

When escort is available, which it is at 47% of the sample sites, it tends to be available for the same occasions as simple transportation. Escort most often is provided by paid staff members (72% of the providers where it is available) as opposed to volunteers (38%) or staff donated by other agencies (30%).

Like transportation, the chief impediment to improved escort service is said to be money for staff and better-equipped vehicles.

3. Shopping Assistance

Considering the responses of all staff members, it was ascertained that shopping assistance is available at 69% of the sample sites. Not surprisingly, shopping assistance is closely linked with transportation: at 93% of the sites where it is available, shopping assistance includes transportation. Other components of this assistance are carrying packages (84%) and help with selection of items (53%). In addition to grocery shopping, most sites with this service (69%) include shopping for items other than food. Other aspects of shopping assistance described by occasional site managers are pick-up and delivery of prescription medicines, assistance at post offices, help in computing prices, and help with reading labels. One manager noted their operation of a coupon bank and another told of a "mini-market" held weekly at the site in lieu of going to a shopping area.

All sites but one (98%) allow any participant to use the shopping assistance service. The remaining site restricts the service to participants without other transportation. Most sites (72% of those with shopping assistance) schedule shopping assistance regularly, weekly (55%) or more than once per week (30%). Those who do not have a regular schedule indicate that the service is available on request, as needed.

When a choice of stores is available in the community, individual participants often (56% of the cases) can select the stores where they will shop. For the remaining sites either the group votes, a staff member decides, or some rotation system is used. One site manager described a system whereby stores bid to provide the shopping assistance at their locations, the winning store also supplying the transportation.

Assistance with shopping most generally is handled by paid provider staff (72% of the sites where assistance is available). Appreciable numbers of sites also utilize volunteer labor (38%) or staff donated by other agencies (30%).

When asked about improvements needed, most site managers (58% of those with an opinion) said that their shopping assistance was working well and that no improvements were necessary. Other managers pinpointed a need for additional staff and/or vehicles to permit more regularly scheduled and more personalized shopping assistance.

4. Nutrition Education

Nutrition education is one of the most generally available support services throughout the system, available at 90% of the meal sites. The intensity of the education is considerably more varied. According to site managers, most sites schedule nutrition education monthly (53%) or less often (19% of those with any education at all). Relatively few sites report weekly (24%) or daily (3%) activities.

According to the nutritionists and dieticians interviewed, the most frequently used methods of nutrition education are lectures (92% of the locations with nutritionists/dieticians), circulation of printed materials (90%), and posting of visual materials (75%). Group discussions are used by 67% of the relevant providers and 61% provide personal counseling on nutrition. Half or fewer of these providers use methods such as nutrition-related games (49%), cooking sessions (43%), workshops (31%), or market trips (25%). More exotic techniques, each mentioned once, include organization of diet clubs, operation of a food co-op, a food-of-the-month program at a local supermarket, and use of the congregate meal for demonstration purposes.

A wide range of topics is covered during nutrition education. Both the site managers and the providers' nutritionists/dieticians (when there was one) were asked to identify these topics, and there was considerable agreement between the two sources. One collection of topics, all of which were identified by more than 80% of the respondents, can be characterized as basic facts about nutrition: nutritional values of foods; food groups; vitamins and minerals; balancing meals; calories, diets, and overweight; and general principles of good health and nutrition. Two other topics, which deal more with nutritional practice were noted less frequently: food purchasing and food and meal preparation.

Many other topics of nutrition education were mentioned by isolated respondents, including food storage, safety, and sanitation; low-salt, low-sugar, and low-cholesterol diets; food interactions; food-drug interactions; disease and diet complications; fad diets; portion control; reading labels and consumerism; and meal appeal.

Who provides nutrition education at the sites? According to the nutrition service directors, at 80% of the sites one person is responsible for nutrition education; at the remaining sites the responsibility is shared by two people. Most often, nutrition education is handled by Title III program staff members, especially nutritionists/dieticians and site managers, however, thirteen directors (20% of the sites responding) use outside contractors to provide nutrition education. These persons are obtained from universities or from other sources. Fourteen sites (22%) receive the services of personnel donated by other agencies (U.S. Department of Agriculture extension offices and state or local health departments) or use volunteers. Most of the educators identified (67%) are labeled as nutritionists, dieticians, or home economists. The other persons are staff members with other program duties and titles, although some of these probably are also qualified nutritionists.

Site managers, when asked how nutrition education could be improved, noted primarily that its frequency could be increased (32%), that more active approaches such as games and demonstrations were needed (24%), and that there was need for better-qualified personnel (16%) and more individualized approaches to nutrition education (12%). These concerns are highlighted by the finding that participants' dietary intakes away from meal sites are no better than those of non-participants (see Dietary Intake section in this volume of this report).

5. Recreation and Social Activities

Another very prevalent support service, available in some form at virtually all (93%) of the sites, is recreation and social activity. Most congregate sites have facilities for recreation at the meal site, or, if not there, at some affiliated location such as a senior or community center. A few sites have no really accessible recreation place. For example, sites which use commercial dining facilities to serve meals may have difficulty scheduling the space for non-meal functions.

For those sites which have a place available to participants for spare time activities, the recreation facility usually is open five days per week (92% of the sites), sometimes more, sometimes less, for an average of seven hours per day. Although much of this time may be unprogrammed, most (58%) of the sites with facilities schedule specific recreation or social activities on a daily basis. Others schedule these activities several times per week (15%) or weekly (17%). Thus, fewer than 10% of the sites fail to have scheduled social activity on at least a weekly basis.

The most frequent events, according to the site managers at 65 sites with regular activities, are card games (74% of the sites), arts and crafts (66%), parties or dances (58%), exercise classes (57%) and field trips (54%). But many other events are scheduled, including religious study, musical events, swimming, picnics, and other games such as pool or bingo.

The programming of activities appears to be fundamentally in the hands of site managers (84% of the sites), individual participants (74%), and site councils (48%), that is, at the local level. Staff and councils at the provider level are less likely to be involved with recreational or social planning.

Like many other support services, the most frequently identified way to improve recreation and social activity is to find increased financial support, particularly for more supplies. Somewhat surprisingly, in light of the above data, a few site managers noted a need to improve the motivation and attitudes of participants and to involve participants more in planning.

6. Information and Referral

Information about other services and referral to other agencies are also available through most (86%) congregate meal sites. The benefits and services most frequently identified by site managers as the subject matter of information and referral are health care (97% of the sites with this service), social security (93%), food stamps and commodity programs, etc; 88%, legal services (88%),public assistance (88%), and housing (77%). Topics mentioned less frequently are home maintenance, energy, income taxes, transportation, travel, fire safety, mental health, education, recreation, weatherization, consumerism, and crime and self defense.

The most frequent method of providing information is individual contact, upon request by participants (93%). But most sites also report use of outside speakers (90%), general announcements made at meals or other gatherings (86%), and printed materials (86%). Thus, in terms of the methods of providing information, the sites appear to differ very little: virtually all of them use many methods.

Sites do differ on two other dimensions, however, particularly in the domain of referral. While most sites (89%) refer participants directly to the service agency appropriate for their needs, a few refer them to an intermediary information-and-referral service. At many sites, both procedures are in use, although the more likely procedure is a direct referral.

In addition, the level of involvement with and follow-up of the referral differs markedly among the sites. Table V-4 summarizes data showing this difference. Site managers were asked whether they usually, sometimes, or never made appointments for participants, arranged transportation to the agency, accompanied participants to the agency, or followed up on the referral to see that the participant was served. As can be seen in Table V-4, sites are rather evenly spread across the various frequency levels, reflecting considerable diversity in their levels of involvement with the referral process. Over all sites, the highest levels of involvement tend to be in making appointments for participants and in following up the referrals. Site staff members are least likely to actually accompany participants agencies.

TABLE V-4

STAFF REFERRAL ACTIVITIES
ON BEHALF OF PARTICIPANTS

Action	Percentage of Sites[1] Which Usually	Sometimes	Never
Make Appointment for Participant	47%	32%	21%
Accompany Participant to Agency	13	38	49
Transport Participant to Agency	30	40	30
Follow Up Upon Referral	57	20	23
All Actions	37	32	31

[1]Based upon data provided by 60 site managers.

For later analytic purposes, a referral-involvement score was computed for each site, based upon their managers' responses to the above questions. Six sites "never" perform any of the actions listed in Table V-4, five sites "usually" perform all of the actions, and the other sites are distributed quite evenly between the two extremes. Thus, sites vary greatly in their typical involvement during referral, and it will be of interest to examine this variation in conjunction with other operational variables, participant satisfaction, and so forth.

When asked about ways to improve information and referral services, site managers said that staff time was the chief problem, particularly time for more personal contact and follow-up, and they saw more funding as the solution. Additional funds also were reported to be needed for printed materials. Some managers noted that the amount of paperwork required to record services was excessive and should be reduced to allow more actual service.

7. Counseling

As was indicated in Table V-3, counseling is one of the less frequently available support services, particularly according to site managers. On the basis of all information gathered, we believe that the site managers' views are the most accurate among the staff members and that counseling actually is available through, at most, 61% of the congregate sites. Even this estimate may be high, because at some of these sites "counseling" appears actually to reflect referral to a counseling agency or provision of information, rather than counseling.

The major type of counseling reported by site managers involves personal, mental health issues (83% of the sites with counseling available). Other areas of counseling are far less prevalent: legal counseling (31%), health (21%), housing (12%) and tax counseling (10%).

Counseling is performed primarily by provider/site staff, especially the site managers, or by community professionals or staff of other agencies who donate their services to the Title III program. Relatively little counseling is available five days per week, seven hours per day, or as needed. Most managers (88%) say that participants can call at times other than normal counseling hours.

When counseling occurs,it can occur virtually anywhere. Although 74% of the sites with counseling have a private office suitable for that purpose, much of the counseling also is reported to occur during casual, private encounters (50% of the sites) and during meals, meetings, or other gatherings (43%). Half (50%) of these sites also counsel participants in their homes, and many (43%) counsel over the telephone.

The major requirement for improving counseling, according to site managers, is more staff, whether paid, donated, or volunteered (88% of the respondents). Other needs are for more staff training, better facilities, better publicity, and ways to overcome the stigma of asking for help.

F. Awareness of and Participation in Site Nutrition Education

Congregate dining sites have been encouraged to offer nutrition education. These educational activities may take a variety of forms: classes, informal discussions, or the provision of printed materials on nutrition and/or food preparation. This section of the report discusses awareness and utilization of site nutrition education by elderly participants and former participants.

For a frame of reference, it is useful to recall that Nutrition Service personnel say that nutrition education is available in virtually all sites. (See Table V-3.)

1. Awareness of Site Nutrition Education

Slightly more than one-half (54%) of current congregate dining participants reported they were aware of nutrition education activities at their sites (see Table V-5). Nearly one-fifth (17%) did not know whether such educational activities were offered through sites, leaving 29% who said they were not. As shown in Table V-5 former participants were less likely to recall that nutrition education had been available when they were active Service participants.

Longer-term participants (64%) were also more aware of site nutrition education than elderly who have more recently enrolled (42%).[1] Persons attending sites established after 1975 were marginally more likely to report their sites offered site nutrition education (56% vs. 50% of pre-1975 site attendees).[2]

These data reveal elderly awareness of nutrition education and may not precisely correspond to the degree to which sites actually offer educational programs. The fact that 17 percent did not know whether such programs were available at their site suggests that increased publicity concerning site nutrition education may be useful. Increased publicity may help ensure that all potential nutrition education participants will be aware of the full range of supportive services available.

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[1] A significant finding (χ^2, 1 df, = 83.5, $p < .01$).

[2] A significant finding, although a small percentage difference (χ^2, 1 df, = 6.1, $p < .05$).

TABLE V-5

AWARENESS OF SITE NUTRITION EDUCATION[1]

Awareness[2]	Participants (N=1,735)	Former Participants (N=249)
Education Available	54%	36%
Education Not Available	29%	38%
Do Not Know/Could Not Recall	17%	25%
No Response	*	1%
TOTAL	100%	100%

[1]Source: Q. E14

*Denotes less than 1%.

[2]Percentages differ significantly (χ^2, 1 df, = 25.5, $p < .01$). Former participants were less likely to report education was available and more likely to report either that it was not available or they did not know whether it had been available at their sites.

2. Proportion of Participants Aware of Site Nutrition Education by Site.

Lack of awareness of nutrition education is spread across all sites and hence cannot be attributed to the few sites at which no such support service is currently available. In half the sites, 59% or less of participants were aware of nutrition education efforts (see Table V-6). The proportions were not markedly different in those sites formed pre-1975 and those formed later.

TABLE V-6

QUARTILE PROPORTIONS OF SITE PARTICIPANTS AWARE OF[1] NUTRITION EDUCATION PROGRAMS

First Quartile	33%
Second Quartile	59%
Third Quartile	70%
Highest Value	100%

[1]This table shows that at one-fourth of sites, one-third or fewer participants were aware of nutrition education; at one-half of sites 59% or less were aware of nutrition education, etc.

3. Respondent Characteristics Related to Awareness of Nutrition Education

Regression analyses were conducted to identify variables associated with awareness of Nutrition education. These analyses are presented in depth in Appendix J and summarized here.

Elderly persons who were active participants, and were aware of other supportive services were likely to be aware of site nutrition education activities.

Although only 10 percent felt the Service was "free," these persons were somewhat less likely to be aware of site nutrition education. Those who do not contribute, however modestly, to their sites may be less interested in site activities and, hence, exhibit lower awareness of them.

Participants who were more mobile, felt their health had not declined, felt their incomes were adequate, and were rarely depressed were more aware of site nutrition education. More able participants and those who had positive self-perceptions exhibited greater awareness. These findings and the fact that minority persons were less aware of site nutrition education suggest that this supportive service may not reach some important sub-populations. It may also be, however, that the more disadvantaged groups referred to above are less interested in exploring the full range of available supportive services.

4. Participation in Site Nutrition Education

Participants who said that site nutrition education activities were available at their sites were asked if they had ever participated in these activities. As shown in Table V-7, aware participants were more likely (73%) to have participated than were former participants (60%). Disregarding this difference, it is clear that a majority of participants who are aware that nutrition education is available take advantage of it.

As a percentage of the total current congregate Service population; however, only 39 percent have ever participated in these activities (see Table V-7). Although the former participant sample was not designed to be statistically representative of all former Service attendees, it is interesting to note that a smaller proportion of this sub-sample (21%) had ever participated in site nutrition activities.

Aware longer-term participants were also more likely to participate than more recent aware entrants (79% vs. 65%).[1] Aware participants attending sites established prior to and after 1975 were comparably likely to participate in nutrition education (75% vs. 71%).[2]

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[1] A significant finding (χ^2, 1 df, = 22.4, $p < .01$)

[2] Percentages do not differ significantly (χ^2, 1 df, = 1.5, $p > .05$).

TABLE V-7

PARTICIPATION IN SITE NUTRITION EDUCATION[1]

Participation[2]	Participants (N=926)	Former Participants (N=89)
Participation by Aware Participants	73%	60%

Participation[3]	Participants (N=1,735)	Former Participants (N=249)
Participation by All Participants	39%	21%

[1]Source: Q. E15

[2]Percentages differ significantly (χ^2, 1 df, = 4.6, $p < .05$). Aware participants were more likely to use the Service than aware former participants.

[3]Percentages differ significantly (χ^2, 1 df, = 7.2, $p < .01$). Regardless of awareness, a larger proportion of participants participated in site nutrition education.

5. Respondent Characteristics Related to Participation In Site Nutrition Education

Regression analyses[1] were utilized to identify those characteristics that were relatively associated with participation in site nutrition education. Only results for current congregate dining participants are discussed below, because former participants' characteristics were not significantly related to utilization of this supportive service.

Participation in site nutrition education among those aware of its availability was enhanced by positive perceptions of site contributions policy and awareness of other supportive services: site recreational activities and shopping assistance.[2] Perceptions of site contributions policy had a modest relationship with participation. Those who felt meals were free were most likely to take part (79%); however, even among those who felt they were charged, 70 percent had ever participated in site nutrition education.

Participation was higher among aware females who were more mobile and able to attend sites frequently. Those who occasionally or often felt depressed were not only less aware of the supportive service, but less likely to avail themselves of it. Interestingly, more highly educated persons apparently found this activity less appealing than did those with less than nine completed years of education.

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[1] See Appendix K for a description of the analytic technique.

[2] Tables for relationships discussed in the text are in Appendix K.

G. Awareness of and Utilization of Site Shopping Assistance

All participants were asked whether they had ever been offered shopping assistance through their meal sites. If shopping assistance had been offered, elderly were then asked how often it was offered and how often they utilized this supportive service. It may be recalled that administrative personnel at various levels said that shopping assistance was available at approximately two out of three sites (see Table V-3).

1. Awareness of Site Shopping Assistance

More than three-quarters (77%) of current congregate dining participants reported either that site shopping assistance had never been offered or that they did not know if it was available (see Table V-8). Other data contained in this table show that 16 percent reported this assistance was offered at least once a week. Thus, although a majority were unaware of shopping assistance, when it was available, it was offered on a frequent basis. Former participants were more likely to recall that shopping assistance was not available or less able to recall whether it had been available (87% vs. 77% of current participants).

A somewhat smaller percentage of longer-term participants were unaware of the supportive service (74% vs. 79% of recent entrants who were unaware).[1]

Separate comparisons were made between those attending sites established prior to and after 1975. Persons attending pre-1975 sites were likely to report that this supportive service was offered on a more frequent basis, i.e. one-fifth said it was offered at least once a week (vs. 13% of post-1975 site attendees who reported it was offered this frequently).[2]

All in all, these data show that large majorities of each current participant sub-population were unaware of site shopping assistance.

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[1] A significant difference (χ^2, 1 df, = 5.0, $p < .05$).

[2] A significant difference (χ^2, 1 df, = 8.3, $p < .01$).

TABLE V-8

FREQUENCY WITH WHICH SITE SHOPPING[1] ASSISTANCE WAS OFFERED

Frequency[3]	Participants (N=1735)	Former Participants (N=249)
Once A Week or More Often	16%	8%
Once Every Two Weeks	2%	--
Once A Month/Less Often	3%	2%
Do Not Know/Could Not Recall Frequency	2%	3%
Unaware of Assistance	77%[2]	87%[2]
TOTAL	100%	100%

[1] Source: Qu. B12

[2] Percentages include elderly who reported this service was not available and who did not know if it was available.

[3] Percentages differ significantly (χ^2, 1 df, = 4.9, $p < .05$). Participants who said the service was available, reported more often that it was available at least once a week than did former participants.

2. Proportion of Participants Aware of Shopping Assistance by Site

Lack of awareness of site shopping assistance is spread across all sites. As shown in Table V-9, at 25 percent of sites, 5 percent or fewer of participants were aware of its availability. At three-quarters of sites, 37 percent or fewer of participants said this support service was available.

TABLE V-9

QUARTILE PROPORTIONS OF SITE PARTICIPANTS AWARE OF SITE SHOPPING ASSISTANCE

First Quartile	5%
Second Quartile	14%
Third Quartile	37%
Highest Value	86%

3. Respondent Characteristics Related to Awareness of Site Shopping Assistance

Regression analyses[1] were conducted to identify elderly characteristics significantly related to awareness of site shopping assistance.

Participants who more frequently attended their sites (i.e. 16% who attended at least once a week were aware vs. 10% of participants who attended less often) and those who always participated in site recreation activities were among those most likely to be aware of site shopping assistance.[2]

Further, females and participants who felt their diets were more nutritious were more aware of this service.[3]

More importantly, however, aware attendees tended to be more depressed and somewhat more isolated than their peers.[4] These findings suggest that sites may offer shopping assistance to those persons whose living circumstances may indicate greater need for assistance.

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[1] See Appendix L for a description of the analytic technique.

[2] Significant univariate F values were found (all F's, 14 and 1029 df, > 6.0, all p's < .05). See Appendix L.

[3] Significant univariate F values were found (all F's, 24 and 1419 df, > 5.5, all p's < .05). See Appendix L.

[4] Significant univariate F values were found (all F's, 24 and 1419 df, $\geq$ 4.5, all p's < .05). See Appendix L.

4. Utilization of Site Shopping Assistance

Participants who were aware of this supportive service at their sites were asked how frequently they utilized shopping assistance. As can be seen in Table V-10, approximately one-half (53%) of aware participants had availed themselves of this assistance. Furthermore, aware current participants were more likely to have used the service than were aware former participants (53% vs. 32%).

As a percentage of the total current congregate Service population, however, only 12 percent had ever used site shopping assistance (see Table V-10). An even smaller percentage (5%) of former participants ever recalled having used shopping assistance.

Aware longer-term participants were more likely to utilize this supportive service than more recent program entrants (60% vs. 44%).[1]

Separate comparisons were made between persons who attended sites established before and after 1975. Aware participants were equally likely to utilize the service regardless of when their sites had been established (50% of post-1975 site attendees vs. 55% of pre-1975 site attendees).[2] However, a slightly larger proportion of all elderly participants attending pre-1975 sites used the service (14% vs. 11% of post-1975 site attendees).[3] This is due to the finding that participants attending pre-1975 sites reported that shopping assistance was offered more frequently (see Table V-11).

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[1] A significant finding (χ^2, 1 df, = 34.1, $p < .01$).

[2] A non-significant difference (χ^2, 1 df, = 1.2, $p > .05$).

[3] A significant finding (χ^2, 1 df, = 4.1, $p < .05$).

TABLE V-10

UTILIZATION OF SITE SHOPPING ASSISTANCE[1,2]

Utilization[3]	Participants (N=405)	Former Participants (N=34)
Utilization by Aware Participants	53%	32%

Utilization[4]	Participants (N=1735)	Former Participants (N=249)
Utilization by All Participants	12%	5%

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[1] Source: Qu. B13

[2] A detailed distribution for this item is in Appendix M.

[3] Percentages differ significantly (χ^2, 1 df, = 4.9, $p < .05$). Participants who said the service was available were more likely than former participants to have used the assistance.

[4] Percentages differ significantly (χ^2, 1 df, = 12.8, $p < .01$). A larger percentage of current participants reported having used site shopping assistance.

TABLE V-11

FREQUENCY WITH WHICH SITE SHOPPING ASSISTANCE[1]
WAS OFFERED: PRE-1975 VS. POST-1975 SITE ATTENDEES

Frequency[4]	Attend Post-1975 Site (N=903)	Attend Pre-1975 Site (N=832)
Once A Week or More Often	13%	20%
Once Every Two Weeks	1%	2%
Once A Month/Less Often	4%	1%
Do Not Know	3%	2%
Unaware of Assistance	78%[2]	75%[2]
TOTAL	99%[3]	100%

[1] Source: Q. B12

[2] Percentages include elderly who reported this service was not available and who did not know if it was available.

[3] Total differs from 100% due to rounding.

[4] Percentages differ significantly (χ^2, 1 df, = 8.3, $p < .01$). Those attending pre-1975 sites were more likely to report this service was available "once a week" or more often.

5. Respondent Characteristics Related to Utilization of Site Shopping Assistance

Multivariate analyses[1] were employed to identify participant and former participant characteristics related to reported utilization of this supportive service.

Approximately one-half of current participants who were aware of site shopping assistance utilized this supportive service. The more frequent users were females who frequently socialized with friends attending their sites. Although more frequent users tended to be more generally mobile, felt their health was average or better and were only rarely or never depressed, they were also more likely to have incomes below $6,000 in 1981 and were more isolated than their peers (Table V-12 illustrates the relationship between income and utilization). Socially isolated elderly live alone, report they had too few friends, did not have someone in whom they could confide, and were rarely visited by their children.[2] Thus, among current aware participants, utilization is higher for those whose demographic characteristics indicate a need for this particular type of assistance.

As expected, former participants who had attended their sites frequently and had positive perceptions of their sites had been more likely to utilize the service.

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[1] See Appendix M for a description of the regression technique.

[2] See Appendix M for a description of the analytic technique.

TABLE V-12

RELATIONSHIP BETWEEN 1981 ANNUAL FAMILY INCOME[1,2,3] AND UTILIZATION OF SITE SHOPPING ASSISTANCE

Utilization[5]	Participants	
	Less Than $6,000 (N=283)	$6,000 Or More (N=111)
Used Whenever Offered or Occasionally	60%	34%
Never Used	38%	64%
Do Not Know	*	2%
No Response	1%	--
TOTAL	99%[4]	100%

[1] Source: Qu. B13, I9

[2] Elderly who were unaware of site shopping assistance are excluded from this analysis.

[3] A more detailed distribution for this item is in Appendix M.

[4] Total differs from 100% due to rounding.

[5] Percentages differ significantly (χ^2, 1 df, = 21.0, $p < .01$). Less affluent aware participants were more likely to utilize this supportive service.

* Denotes less than 1%.

H. Awareness of and Utilization of Site Medical Assistance

All Service participants were asked whether their sites "... ever help(ed) people get medical examinations, treatments, or medicines." Those who were aware of site medical assistance and referral were then asked if they had ever utilized this supportive service. According to various levels of service management, medical assistance is available at approximately four out of five sites. (See Table V-3.)

1. Awareness of Site Medical Assistance

Approximately one-half (53%) of current participants were aware of this supportive service at their sites; however, a large minority (20%) did not know whether it was available (see Table V-13). Former participants were more likely to recall that referral had not been available at their sites (40% vs. 27% of current participants).

Additional comparisons of important current participant sub-populations reveal that longer-term participants were more aware of medical assistance than those who have more recently entered the program (58% vs. 47%)[1]. Also, persons attending sites established prior to 1975 were slightly more aware of this type of assistance than participants attending post-1975 sites (55% vs. 50%).[2]

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[1] A significant finding (χ^2, 1 df, = 18.5, $p < .01$).

[2] A significant finding, although a small percentage difference (χ^2, 1 df, = 4.9, $p < .05$).

TABLE V-13

AWARENESS OF SITE MEDICAL ASSISTANCE[1]

Awareness[2]	Participants (N=1735)	Former Participants (N=249)
Assistance Available	53%	40%
Assistance Not Available	27%	40%
Do Not Know/Could Not Recall	20%	19%
No Response	*	1%
TOTAL	100%	100%

[1]Source: Qu. B14

[2]Percentages differ significantly (χ^2, 1 df, = 13.1, $p < .01$). Former participants were less likely to report assistance had been available and were more likely to report either that it had not been available or that they did not know if it had been available at their sites.

*Denotes less than 1%.

2. Proportion of Participants Aware of Site Medical Assistance by Site

As we have seen, whereas various levels of service management reported that medical assistance was available at about four out of five sites, only about one-half (53%) of all participants were aware of its availability. Table V-14 provides additional information regarding the distribution of respondent awareness by site. These data show that at 25 percent of sites, 37 percent or fewer participants said this support service was available. At three-quarters of sites ("third quartile"), two-thirds (68%) or fewer were aware of its availability. Thus, there is considerable variability of participant awareness by site.

TABLE V-14

QUARTILE PROPORTIONS OF SITE PARTICIPANTS AWARE OF MEDICAL ASSISTANCE

First Quartile	37%
Second Quartile	50%
Third Quartile	68%
Highest Value	97%

3. Respondent Characteristics Related to Awareness of Site Medical Assistance

Multivariate analyses[1] were utilized to identify elderly characteristics related to awareness of this supportive service.

Current congregate meal site participants were more aware of this supportive service if they attended active sites, and were socially active at their sites. For example, 60 percent of those who spent a lot of time visiting friends at their site were aware of medical assistance (vs. 44% of those who spent little time visiting friends).[2] If they either donated or were "charged" by their sites, they were more aware of medical assistance (i.e. 55% and 48% vs. 43%, respectively).[3]

The more mobile, the married, and those who had a positive view of the near future were also more aware.[4] The fact that those who felt their health was better were more aware of the service[5] suggests that care should be taken to publicize availability of medical referral to those who feel their health is below average.

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[1] See Appendix N for a description of the regression technique.

[2] A significant univariate F was found (F, 14 and 1,029 df, = 8.4, $p < .01$). See Appendix N.

[3] A significant univariate F was found (F, 14 and 1,029 df = 6.3, $p < .05$). See Appendix N.

[4] Significant findings (all F's, 24 and 1163 df, ≥ 3.9, all p's $< .05$). See Appendix N.

[5] A significant univariate F value was found (F, 24 and 1,163 df = 6.2, $p < .05$). See Appendix N.

4. Utilization of Site Medical Assistance

Those who reported that medical referral services were available through their sites were asked if they had ever used this supportive service. Data contained in Table V-15 show that 52 percent of aware current participants had utilized site medical referral services. A comparable percentage of aware former participants had done so (54%).

Of the total current congregate Service population, slightly more than one-quarter (27%) had used this supportive service. A smaller proportion of former participants interviewed had utilized the service (21%).

Longer-term participants who were aware of the service were more likely to have utilized it than more recent entrants (56% vs. 48%).[1] A larger proportion of all longer-term participants had utilized this support service (32% vs. 22% of more recent entrants).[2]

Utilization at pre-1975 and post-1975 sites was found to be comparable.[3]

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[1] A significant finding (χ^2, 1 df, = 6.4, $p < .01$).

[2] A significant finding (χ^2, 1 df, = 21.8, $p < .01$).

[3] Percentages did not differ (all χ^2, 1 df, < 1.0, all p's > .05).

TABLE V-15

UTILIZATION OF SITE MEDICAL ASSISTANCE[1]

Utilization[2]	Participants (N=911)	Former Participants (N=99)
Utilization by Aware Participants	52%	54%

Utilization[3]	Participants	Former Participants
Utilization by All Participants	27%	21%

---

[1] Source: Qu. B15

[2] Percentages do not differ significantly (χ^2, 1 df, = 0.0, $p > .05$).

[3] Percentages differ significantly (χ^2, 1 df, = 3.9, $p < .05$). A larger percentage of current participants used the service.

6. Respondent Characteristics Related to Utilization of Site Medical Assistance

Regression analyses[1] were conducted to identify characteristics related to utilization of site medical referral services. Demographic and lifestyle characteristics were found to significantly predict utilization by current and former participants. Neither group's Service related experiences and perceptions were reliably related to utilization.

What is interesting regarding the results for current congregate dining participants is that self-reported health and number of doctor visits did not predict utilization of site medical assistance. Rather, those who led a more "isolated" lifestyle were more likely to take advantage of the supportive service. Single persons who rarely invited others to dine at their homes and who were not members of clubs were more likely to utilize site medical assistance.[2] Encouragement from peers to attend the Service also was positively related to utilization.[3] Participants who live in a larger social "world" may be able to obtain medical assistance from other community services.

One other interesting result emerged from analyses of former participants. This supportive service had been more often utilized by those with lower education.[4] More highly educated persons may have been better aware of similar services offered through other community services.

All in all, among current participants, a less socially active lifestyle appears to predict utilization. It is not unreasonable to infer more "isolated" current users may be better able to find this type of support through the congregate dining Service than through independent exploration of other services available in their community.

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[1] See Appendix O for a description of the analytic technique.

[2] Significant findings (all F's, 24 and 1,435 df, $\geq$ 3.9, all p's < .05). See Appendix O.

[3] A significant univariate F value was found (F, 24 and 1,435 df, = 4.0, p < .05). See Appendix O.

[4] A significant univariate F value was found (F, 24 and 186 df, = 4.7, p < .05).

I. Awareness of and Participation in Site Recreational Activities

A major goal of the Nutrition Services for the Elderly is to ameliorate the social isolation and loneliness that may characterize the life style of a proportion of older persons. Congregate meal sites may offer a variety of recreational activities and provide settings in which participants may socialize with their peers. Service staff reported that recreation was available at a vast majority of sites (93%). This section of the report discusses participant perceptions of this important component of the Service.

1. Awareness of Recreational Activities

When directly asked whether their congregate dining sites offered ". . . activities such as games, movies, or singing," a majority of current participants (86%) responded affirmatively (see Table V-16). A majority of former participants (77%) also recalled that such activities were available during the time they were active Service participants.

Whereas longer-term participants were slightly more aware of recreational activities than more recent entrants (89% vs. 82%),[1] those attending pre-1975 and post-1975 sites were comparably aware of site recreational opportunities (86% vs. 85%).[2] Clearly, a majority of sites offer various forms of recreation in addition to provision of a meal. (Program management personnel say recreation is available at nearly nine out of ten sites.)

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[1] A significant difference (χ^2, 1 df, = 12.6, $p < .01$).

[2] Percentages did not differ significantly (χ^2, 1 df, = 0.4, $p > .05$).

TABLE V-16

AWARENESS OF SITE RECREATIONAL ACTIVITIES[1]

Awareness[2]	Participants (N=1,735)	Former Participants (N=249)
Activities Offered	86%	79%
Activities Not Offered	11%	12%
Do Not Know/Could Not Recall	3%	8%
No Response	*	1%
TOTAL	100%	100%

[1]Source: Q. B2

[2]Percentages do not significantly differ (χ^2, 1 df, = 0.0, $p > .05$).

*Denotes less than 1%.

2. Proportion of Participants Aware of Site Recreational Activities by Site

Service management and participants report that recreational activities are among the most frequently offered meal site activities. The data contained in Table V-17 shows the distribution of respondent awareness of these activities by site.

These data show that the vast majority of participants are aware of these activities. For instance, at 25 percent of sites (first quartile) up to 83 percent of respondents were aware of these activities. Further, at 75 percent of meal sites (third quartile) up to 97 percent reported it was available. In nearly one-quarter (24%) of the sampled congregate dining sites virtually all respondents were aware of site recreational activities.

TABLE V-17

QUARTILE PROPORTIONS OF SITE PARTICIPANTS AWARE OF RECREATION ACTIVITIES

First Quartile	83%
Second Quartile	93%
Third Quartile	97%
Highest Value	100%

3. Frequency of Participation in Site Recreational Activities

Those who reported that these activities were available were also asked how frequently they participated in them. Data presented in Table V-18 show that 68% of aware current participants "sometimes" or "always" took part in these activities. A smaller percentage of former participants recalled having participated as frequently (55%).

Of the total current population receiving congregate meal, nearly three-fifths (58%) participated at least occasionally. Less than one-half (44%) of the former participants interviewed recalled having participated as frequently (see Table V-18). Thus, on the whole, former participants were less active participants in site recreational activities.

Other analyses of participation revealed that aware recent program entrants were less likely to join in these activities than longer-term participants (63% vs. 72% participated "always" or "sometimes").[1] Aware respondents at sites established prior to and after 1975 participated comparably often (68% and 68%).[2]

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[1] A significant difference (χ^2, 1 df, = 13.7, $p < .01$).

[2] Percentages do not significantly differ (χ^2, 1 df, = 0.0, $p > .05$).

TABLE V-18

FREQUENCY OF PARTICIPATION IN SITE[1] RECREATIONAL ACTIVITIES

Frequency of Participation[2]	Participants (N=1,485)	Former Participants (N=197)
Participation by Aware Respondents		
Always/Sometimes	68%	55%

Frequency of Participation[3]	Participants (N=1,735)	Former Participants (N=249)
Participation by All Respondents		
Always/Sometimes	58%	44%

[1]Source: Q. B3

[2]Percentages differ significantly (χ^2, 1 df, = 11.9, $p < .01$). Aware former participants were less likely to participate in site recreational activities.

[3]Percentages differ significantly (χ^2, 1 df, = 17.7, $p < .01$). A smaller proportion of former participants participated in site recreational activities.

4. Respondent Characteristics Related to Participation in Site Recreational Activities

Regression analyses[1] were used to identify elderly characteristics related to frequency of participation in site recreational activities. Results for current participants and former participants are discussed below.

Current participants likely to frequently participate in site recreational activities were frequent site attendees, were socially active at their sites, and who utilized site shopping assistance.[2] Table V-19 illustrates the strong relationship between recreation participation and time spent visiting friends at the site. Minority participants were also more likely to frequently participate.[3] Former participants who had been frequent Service attendees, had been socially active with their friends at the site had also been frequent participants in site recreational activities.[4]

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[1] See Appendix P for a description of the analytic technique.

[2] Significant univariate F values were found (all F's, 14 and 1,029 df, $\geq$ 5.4, all p's $<$.05). See Appendix P.

[3] A significant univariate F value obtained (F, 24 and 1,421 df, = 11.8, $p < .01$). See Appendix P.

[3] Significant univariate F values were found (all F's, 14 and 96 df, $\geq$ 6.5, all p's $<$ .05). See Appendix P.

TABLE V-19

RELATIONSHIP BETWEEN TIME SPENT VISITING FRIENDS AT SITE[1, 2, 3] AND FREQUENCY OF PARTICIPATING IN SITE RECREATIONAL ACTIVITIES

Frequency of Participation[4]	Participants: Spend A Lot/ Some Time Socializing (N=1,168)		Participants: Spend A Bit/ No Time Socializing (N=314)	
Always	38%	75%	11%	41%
Sometimes	37%		30%	
Rarely/Never	23%		58%	
No Response	2%		1%	
TOTAL	100%		100%	

[1]Source: Q. B3, B4

[2]Those who did not provide a response to Q. B4 are excluded from this analysis.

[3]A detailed distribution for this item is in Appendix P.

[4]Percentages differ significantly (χ^2, 1 df, = 143.6, $p < .01$). Aware participants who spent less time visiting with friends were more likely to "rarely" or "never" participate in site recreational activities.

5. Time Spent Socializing with Friends at Sites

One basic indicator of how well the congregate dining provides social opportunities for elderly is the time spent visiting with friends at sites. As shown in Table V-20, three-quarters (76%) of current participants reported that they spent "some" or "a lot" of time visiting with friends. These data also show that former participants were less socially active during their tenure as site participants (56% socialized as frequently).

Separate comparisons between longer-term participants and more recent program entrants revealed that, as might be expected, the longer people had been enrolled, the more time they spent visiting with friends (82% and 69% respectively spent at least "some time" visiting friends at the site).[1]

No differences were observed for participants attending sites established prior to and after 1975 (75% vs. 77% spent "some time" visiting friends).[2]

---

[1] A significant difference (χ^2, 1 df, = 24.1, $p < .01$).

[2] Percentages did not significantly differ (χ^2, 1 df, = 0.5, $p > .05$).

TABLE V-20

TIME SPENT VISITING FRIENDS AT SITE[1]

Time Spent[2]	Participants (N=1,735)		Former Participants (N=249)	
A Lot of Time	43%	76%	23%	56%
Some Time	33%		33%	
Just A Little Time	19%		29%	
No Time	5%		13%	
Do Not Know/Could Not Recall	--		1%	
No Response	--		1%	
TOTAL	100%		100%	

[1]Source: Q. B4

[2]Percentages differ significantly (χ^2, 1 df, = 32.6, $p < .01$). Former participants were less likely to spend "a lot" of time visiting friends at their sites.

6. Respondent Characteristics Related to Socializing with Friends at Site

Regression analyses[1] were conducted to identify elderly characteristics significantly related to socializing with friends. Results for current participants and former participants are discussed below.

Among current participants, those who more frequently socialized with friends were females who enjoyed eating, were often encouraged by peers to attend, and who were able to get out of their homes nearly every day.[2] Table V-21 illustrates the relationship between gender and frequency of socializing at the congregate site. These socially active participants also participated in site recreational activities. Clearly, site recreational activities provide substantial opportunities for social interaction.

Former participants who had been frequent participants in site recreational activities and who felt their sites had been pleasant had also been more socially active.[3] Interestingly, more socially active former participants had also been more likely to have increased their site contributions.[4] One final result of interest is that former participants who are currently encouraged to attend the site by peers had been less socially active during their tenure at sites.[5] Time will tell whether this peer pressure will be successful in inducing re-enrollment of former participants who had availed themselves less of the companionship at their sites.

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[1] See Appendix Q for a description of the analytic technique.

[2] Significant univariate F values were found (all F's 24 and 1,437 df, $\geq$ 5.6, all p's < .05). See Appendix Q.

[3] Significant univariate F values were found (all F's 14 and 96 df, $\geq$ 5.0, all p's < .05). See Appendix Q.

[4] A significant univariate F value was found (F, 14 and 96 df, = 5.7, p < .05). See Appendix Q.

[5] A significant univariate F value was found (F, 14 and 183 df, = 3.9, p < .05). See Appendix Q.

TABLE V-21

RELATIONSHIP BETWEEN GENDER AND TIME SPENT[1, 2]
VISITING FRIENDS AT SITE

Time Spent[3]	Participants	
	Males (N=473)	Females (N=1,256)
A Lot of Time	36%	45%
Some Time	31%	34%
Just A Little Time	25%	17%
No Time	8%	4%
TOTAL	100%	100%

[1]Source: Q. B4, L7

[2]A detailed distribution for this item is in Appendix Q.

[3]Percentages differ significantly (χ^2, 1 df, = 11.7, $p < .01$). Females were more likely to spend "a lot" of time socializing with friends at their sites.

CHAPTER VI

CONTRIBUTIONS

A. Introduction

An area of some concern to those associated with the Nutrition Services is that of participant contributions. It is considered highly desirable that participants be aware of the fact that voluntary contributions are expected so that those able to pay carry a share of the cost of the program. On the other hand, the effort to gain voluntary support should be handled in such a way as to not drive away those needy elderly who cannot provide a contribution since it is a basic premise of the Services that payment will not be required of any participant.

The focus of the following discussion is upon how well the Nutrition Services are communicating these somewhat contradictory messages.

B. Overview of Key Findings

- A majority of participants (70%) reported that their site asked them to make "a donation." Ten percent felt the meal was "free," and twenty percent said the site charged for the meal. These findings are not especially different than those encountered in an earlier (1976-77) study.

- Participants who have the lowest incomes or who feel that their incomes meet their needs "poorly" are most likely to believe meals are free. This may well reflect the fact that more indigent elderly are less likely to be reminded of contributions.

- Feelings that meals are "free" are concentrated in relatively few sites, as are feelings that the site sets a specific charge.

- When asked if they had increased their contribution since joining the program, almost half (45%) of participants other than those who believe the meals are free said they had done so. This was particularly true of longer term participants who, by definition, have had more opportunity to make such an increase.

- Among those who pay, participants who believe the site expects a fee are somewhat more likely to report increased contributions than are those believing payments are voluntary. This suggests that the narrow line that exists between requesting increased contributions and appearing to set a fee may be crossed occasionally.

- There is an indication that minority elderly persons are less likely to report increased contributions. However, given their concentration in a very few sites, the interpretation of this finding is problematic, particularly since perceptions that meals are free are also associated with lower incomes and feelings of income insufficiency.

- There is little evidence that participants who feel their sites "set" meal costs have a sense of being overcharged. Most feel the price is right and those who feel it is too low actually outnumber those who feel it is too high.

- Five out of six participants (83%) say they save money by eating at the site. This figure is very similar to that encountered in the 1976-77 study. Moreover, feelings that money is saved are strongly associated with frequency of participation.

- A disquieting thread that can be followed through this investigation is the responses of former participants. They were more likely to feel they were charged, to say they had not increased their contribution, and to feel that they did not save money. While there is no direct evidence that such feelings lead to their departure, the possibility must be considered.

- Contributions fall far below meal costs. (An average of $.57 vs. $4.09.)

- Site managers mention more variation in contributions practices than do nutrition service directors, indicating that as the organization heads toward the elderly participant it becomes more flexible in application of policy.

- Most sites suggest an appropriate contribution for the meal. The suggestion turns out to be higher than the amount actually received ($.87 vs. $.57). In a majority of sites, "most" participants pay the suggested amount.

- Contribution collection procedures vary, with not as much emphasis on confidentiality as might have been anticipated.

Implications

In general, contributions policy has been well communicated to participants and has resulted in little evidence of distress.

A first glance at the data indicates that there may well be an opportunity to have participants carry a greater proportion of costs through a more vigorous effort to increase voluntary contributions. However, the risks of such an effort might be considerable since communicating such a program to elderly participants may well drive away a portion of those who are in greatest need. The fact that sites appear to tailor their contributions message to the ability of participants to pay, makes one believe that the system is currently reasonable.

C. Perceptions of Site Contributions Policy

A majority of current participants (70%) reported that their site asked them to make a "donation." Ten percent felt that the meal was "free," and a large minority (20%) reported that they believed the site charged for the meal (see Table VI-1).

Table VI-2 presents the perceptions of more recent entrants and longer-term participants. These sub-populations reported comparable perceptions that closely mirrored those for all congregate dining participants.

TABLE VI-2

PERCEPTIONS OF SITE CONTRIBUTIONS POLICY[1]

Perception[2]	Participants (N=1,735)	Former Participants (N=249)
Free	10%	10%
Donation	70%	59%
Charge	20%	26%
Did Not Know/ Could Not Recall	*	4%
No Response	--	1%
TOTAL	100%	100%

[1]Source: Q. A10: Are you asked to make a donation, are you charged a fee, or is the meal free?

*Denotes less than 1%

[2]Percentages differ significantly (χ^2, 1 df, = 23.2, $p < .01$). Former participants were more likely to feel they were charged and less likely to feel they made a contribution than were current congregate participants.

TABLE VI-2

PERCEPTIONS OF SITE CONTRIBUTIONS POLICY[1]
BY LONGER-TERM AND RECENT ENTRANTS

Perception[2]	Recent Entrants (N=857)	Longer-Term (N=878)
Free	12%	9%
Donation	67%	73%
Charge	21%	18%
Did Not Know/ Could Not Recall	*	*
TOTAL	100%	100%

[1]Source: Q. A10

*Denotes less than 1%

[2]Percentages reporting donation or charge do not differ significantly (χ^2, 1 df, = 3.5, $p > .05$).

Comparisons were also made between participants attending sites established prior to and after 1975 (see Table VI-3). Those attending sites that had been operating for the longest period of time were more likely to feel that the meal was "free" than participants attending post-1975 sites (13% vs. 8%).

As a group, former participants were more likely to feel that they had been charged for their meals than were current participants (26% vs. 20%, see Table VI-1). This comparison should be interpreted with caution, since former participants' attitudes reflect recall of events more remote in time than the attitudes of current participants.

TABLE VI-3

PERCEPTIONS OF SITE CONTRIBUTIONS POLICY[1]
BY PRE-1975 AND POST-1975 SITE ATTENDEES

Perception[2]	Attend Post-1975 Site (N=903)	Attend Pre-1975 Site (N=382)
Free	8%	13%
Donation	71%	68%
Charge	21%	18%
Did Not Know/ Could Not Recall	*	1%
TOTAL	100%	100%

[1]Source: Q. A10

*Denotes less than 1%

[2]Percentages differ significantly (χ^2, 1 df, = 19.7, $p < .01$). Elderly attending pre-1975 sites were more likely to feel the meal was free than were those attending post-1975 sites.

D. Overall Differences in Perceptions of Payment Policy, 1976-77/1982

In the 1976-77 wave of this research, a somewhat greater percentage of the participant population saw the meals as "free."

TABLE VI-4

PERCEPTIONS OF SITE CONTRIBUTIONS POLICY[1]
WAVES I AND II

	Wave I (1976-77)			Wave II (1982)		
	Total (N=2,803)	Recent Entrants (N=1,831)	Longer Term (N=972)	Total (N=1,735)	Recent Entrants (N=857)	Longer Term (N=878)
Free	14%	16%	10%	10%	12%	9%
Contribution	65%	63%	67%	70%	67%	73%
Charged	20%	19%	23%	20%	21%	18%
Don't Know	1%	1%	1%	*	*	*
TOTAL	100%	99%[2]	101%[2]	100%	100%	100%

[1]Source: Q. A10

[2]Percentage totals from the earlier study may not add to 100% due to rounding.

*Denotes less than 1%.

The direction of these findings is generally encouraging in that:

- The proportion of congregate participants seeing the meal as "free" has declined (14% in Wave I vs. 10% in Wave II).

- There is no clear pattern of increase in the proportion of participants who see the payment as mandatory (i.e. 20% in both Waves of the study perceived they were "charged").

E. Concentration of Attitudes That Meals Are "Free"

Attitudes that meals are "free" tend to be concentrated in a few sites. For example, in 57% of the sites, not a single participant thought of meals as free and, in an additional 18% (75% in total) less than one participant in ten saw meals as free. The remaining 25% of sites do call for some careful examination. In the bulk of these sites less than a third of participants see meals as free, but in the top 5% over half the participants believe this.

In all, this is one of the most skewed distributions of respondent attitudes by site. It indicates that contribution expectations are clearly indicated by the great majority of sites with some few sites deviating from the majority.

Generally, the pattern was the same for sites established pre-1975 and those established later.

F. Characteristics of Respondents Related to Perceived Site Contributions Practices

To explore the patterns of characteristics of participants related to perceptions of payment policy, multiple regressions were performed.[1] The relationship between perceptions of sites' contributions policies and two sets of respondent characteristics were assessed:

- Participant experiences and perceptions of the services
- Other characteristics such as mobility, health status, social activity level, and demographic variables.

Results for current and former participants are presented below. Similar analyses for home-delivered meal recipients are reported in the Home-Delivery Service Analytic chapter.

1. Congregate Dining Participants' Experiences and Perceptions

- Attendance Frequency
  Elderly persons who attended at least once a week, were less likely to feel they were charged.
- Increased Contributions
  Those who had increased their contribution to the site were more likely to perceive the site charged for meals.
- Time Spent Visiting Friends at Sites
  The more time participants spent visiting friends at the site, the less likely they were to feel they were charged. This group also displayed other positive attributes.

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[1] See Appendix F for a description of the analytic technique.

- Awareness of Site Medical Assistance

  Participants who were aware of site medical assistance, were less likely to feel the site charged for meals.

Several of these characteristics were correlated. Although time spent visiting with friends is most consistently related to other important characteristics, we have chosen to illustrate these results in a summary fashion by presenting the interesting relationship in Table VI-5: the relationship between whether elderly increased their contributions and their perception of site contributions policy.[1] As can be seen, those who had increased their contribution since enrolling were more likely to feel the site charged for the meal (25% vs. 19% of elderly who had not increased their contributions).

2. Congregate Dining Participants' Lifestyle and Demographic Characteristics

Separate regression analyses were conducted to assess whether participant lifestyle and demographic characteristics were related to perceptions of sites' contributions policies.

- General Mobility

  Participants who were able to leave their homes on a daily basis were more likely to feel their contribution was a donation (71% vs. 64% of less mobile elderly).[1]

- Ability to Prepare Meals

  Those who could prepare their own meals if they had to, were more likely to perceive they were charged for the meal.

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[1]Detailed tabulations illustrating simple relationships between other experiences and perceptions, and perceived contributions policy are contained in Appendix F.

[2]Percentages differ significantly (χ^2, 1 df, = 227.5, $p < .01$).

TABLE VI-5
RELATIONSHIP BETWEEN INCREASING[1,2,3]
CONTRIBUTIONS AND PERCEPTIONS
OF SITE CONTRIBUTIONS POLICY

Perception of Site Policy[4]	Participants: Increased Contribution (N=785)	Participants: Did Not Increase Contribution (N=737)
Charge	25%	19%
Donation	75%	81%
TOTAL	100%	100%

[1]Source: Q. A10: Are you asked to make a donation, are you charged a fee, or is the meal free?
Q. A10a: Have you increased your contribution since you joined this program?

[2]A detailed distribution for this item is in Appendix F.

[3]Elderly who felt the meal was free were not asked if they had increased their contribution and, thus, are excluded from this analysis.

[4]Percentages differ significantly (χ^2, 1 df, = 7.6, $p < .01$). Elderly who had increased their contributions were more likely to feel the site charged for the meal.

This highlights a point that could not be easily inferred from earlier analyses. . .there is a danger of reducing the perception of the contribution as voluntary if there is also some effort to increase the size of the contribution. Moreover, former participants are more likely than continuing participants to see the contribution as required. While there is no statistical basis for inferring that a perceived charge may be the cause of losing some participants, the problem must be kept in mind.

3. Former Participants' Experiences and Perceptions

Regression analysis[1] revealed that a number of former participants' experiences with and perceptions of the Services were related to their recall of site contributions policy.

- Transportation Difficulties

  Although only a small percentage (12%) recalled having any difficulty getting to the site, those who did have some were more likely to report that the site had charged.

- Increased Contribution

  Those who recalled increasing their contributions were more likely to recall that their sites had charged for the meal.

- Perceived Savings

  The greater the perceived savings associated with site attendance, the less likely they were to recall that the site charged.

- Awareness of Site Shopping Assistance

  Those who were aware of site shopping assistance, were less likely they were to recall that the site charged for the meal.

As these variables are themselves correlated, one variable is presented in Table VI-6 to illustrate these findings in a summary fashion. As can be seen, a high proportion of former participants who recalled having increased their contributions reported that, when they were active Service participants, sites had charged for the meals. Because this relationship and the others discussed above are based upon recall rather than perceptions of current events, they should be interpreted with some caution. However, the pattern in Table VI-6 is consistent with that observed for current participants (see Table VI-5).

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[1]See Appendix F for a description of the analytic technique.

TABLE VI-6

RELATIONSHIP BETWEEN INCREASING[1,2] CONTRIBUTIONS AND RECALL OF SITE CONTRIBUTIONS POLICY

Recall of Site Policy[3]	Former Participants: Increased Contribution (N=50)	Former Participants: Did Not Increase Contribution (N=148)
Charge	44%	27%
Donation	56%	73%
TOTAL	100%	100%

[1]Source: Q. A10/A10A

[2]Those who recalled that the meal was free were not asked if they increased their contribution and, thus, are excluded from this analysis.

[3]Percentages differ significantly (χ^2, 1 df, = 4.2, $p < .05$). Elderly who had increased their contribution when they were active Service participants were more likely to recall their sites had charged for the meal.

G. Perceptions of Contribution Policy As Related to Income and Income Sufficiency

While the multivariate analysis discussed earlier did not show income or income sufficiency to be among the items principally associated with perceptions of contribution policy, there are some relationships that should be considered.

In Table VI-7, one can see that it is participants with the lowest incomes that are most likely to see their meals as "free." This implies that contributions policy is not as likely to be stressed to more indigent participants.

Table VI-8 presents a more striking picture of the same finding. Those participants who say their income takes care of their needs "poorly" are three times as likely to feel the meal is free than are those whose incomes meet their needs "very well."

TABLE VI-7

RELATIONSHIP BETWEEN PERCEPTIONS OF SITE CONTRIBUTIONS POLICY AND INCOME

		1981 Household Income[1,2]		
	Total	Less Than $4,000	$4,000-$9,999	$10,000 or More
	(N=1,735)	(N=452)	(N=853)	(N=355)
Donation	70%	66%	70%	75%
Charge	20%	17%	21%	19%
Free	10%	16%	9%	6%
Don't Know/ No Response	*	1	*	*
	100%	100%	100%	100%

[1]Source: Q. A10;I9: For statistical purposes, we need to know your family income for 1981. Please give me the letter that covers your total family income for 1981, before taxes. Include your own income and that of any members of your immediate family who are living with you. Just give me the letter (FROM CARD C).

[2]Percentages differ significantly (x^2, 4 df, = 30.9, $p < .01$).

TABLE VI-8

		Income Takes Care of Needs[1,2]		
	Total	Very Well	Fairly Well	Poorly
	(N=1,735)	(N=578)	(N=905)	(N=228)
Donation	70%	75%	67%	65%
Charge	20%	19%	22%	13%
Free	10%	6%	11%	21%
Don't Know/ No Response	*	*	*	1%

[1]Source: Q. A10,H2: How well does the amount of money you have take care of your needs--very well, fairly well, or poorly?

[2]Percentages differ significantly (x^2, 4 df, = 48.31, $p < .01$).

H. Method of Determining Participant Contribution

To further explore the issue of site contributions policy, those who either had donated or felt they were charged were asked how the amount donated was decided. A majority (57%) of such current congregate dining participants reported that donations were "set" by the site. Thirty-seven percent said they had decided how much to contribute (see Table VI-9). Former participants responded comparably, as did recent entrants and longer-term participants (see Table VI-10).

Participants who attended post-1975 sites, on the other hand, were more likely than pre-1975 site attendees to report that the donations they made were "set" by the site. As shown in Table VI-10, nearly two-thirds (65%) of post 1975 site attendees felt this way, whereas only about one-half (49%) of pre-1975 site attendees reported their contributions, whether donations or charges, were "set" by their sites. Thus, post-1975 site attendees were less likely to feel the meal was "free", and when they made a donation, they were more likely to feel the amount was "set" by the site. These data suggest, then, that congregate dining sites established after 1975 may be more likely to effectively communicate to participants that they may contribute to the Service. These sites also appear more likely to suggest a particular contribution level. This is confirmed by a view of responses by site. In half the older sites, under 40% of participants say that fees are set by the site. In the newer (1975 and later) sites, the comparable figure is 70%.

TABLE VI-9

METHOD OF DETERMINING PARTICIPANT CONTRIBUTIONS [1,2]

Method[4]	Participants (N=1,550)	Former Participants (N=212)
Set by Site	57%	60%
Elderly Determined the Amount	37%	34%
Don't Know/ Could Not Recall	2%	2%
No Response	4%	3%
TOTAL	100%	99%[3]

[1]Source: Q. A11: Is the amount of the (donation or charge) you pay set by the site, or do you decide for yourself how much you will pay?

[2]Elderly who either donated or were charged by the site were asked this question.

[3]Total differs from 100% due to rounding.

[4]Percentages reporting amounts contributed were set by site or determined by themselves do not significantly differ (x^2 , 1 df, = 0.6, $p > .05$).

TABLE VI-10

METHOD OF DETERMINING CONTRIBUTIONS[1,2]
PRE-1975 VS. POST-1975 ATTENDEES

Method[4]	Attend Post-1975 Site (N=829)	Attend Pre-1975 Site (N=721)
Set by Site	65%	49%
Elderly Determined the Amount	34%	41%
Do Not Know	2%	2%
No Response	*	9%
TOTAL	101%[3]	101%[3]

[1]Source: Q. A11

[2]Elderly who either donated or were charged were asked this question.

[3]Total differs from 100% due to rounding.

[4]Percentages differ significantly (x^2, 1 df, = 19.1, $p < .01$). Elderly attending pre-1975 sites were more likely to feel they had determined the amount of their contribution and less likely to feel the donation was "set" by the site.

I. Increased Participant Contributions

When asked if they had increased their contribution since "joining the program," nearly one-half (45%) of current participants who pay responded affirmatively. As shown in Table VI-11, longer-term participants were far more likely to have increased their contributions than recent entrants (58% vs. 33%). Of course, longer-term participants have had a longer period of attendance during which to exercise this option. Elderly attending pre-1975 and post-1975 sites were about as likely to have increased their site contributions since "joining the program."

Elderly who had dropped out of the program were least likely to have increased their donation during their period of active participation (20% vs. 45% of current congregate dining participants). Once again, while there is no direct evidence of a cause and effect relationship, the association between former participation and lack of financial flexibility is apparent.

TABLE VI-11

PERCENT OF THE PARTICIPANT POPULATION THAT[1] INCREASED SITE CONTRIBUTIONS

Participant Group	Percent That Increased Contribution	
All Congregate Participants	45%[a]	(N=1,735)
*(Recent Entrants)	(33%)[b]	(N=857)
*(Longer Term)	(58%)[b]	(N=878)
*(Attend Post-1975 Site)	(47%)	(N=903)
*(Attend Pre-1975 Site)	(44%)	(N=832)
Former Participants	20%[a]	(N=249)

---

[1]Source: Q. 10a: Have you increased your contribution since you joined this program?

*Percentages in parentheses are included in all congregate participants.

[a]Percentages with common superscripts differ significantly (χ^2 , 1 df, = 48.2, $p < .01$).

[b]Percentages with common superscripts differ significantly (χ^2 , 1 df, = 109.9, $p < .01$).

J. Concentration of Increases in Contributions

Increases in contributions were reported from virtually all (97%) sites. Moreover, there is a wide range of reported incidence of increased contributions. If all sites are rank ordered by the proportion of participants reporting increases, then looking at quartiles, yields the following results:

TABLE VI-12

QUARTILE CUT-OFFS FOR PERCENT OF PARTICIPANTS REPORTING INCREASED CONTRIBUTIONS

First Quartile	21%
Second Quartile	48%
Third Quartile	73%
Highest Value	97%

Since data have not been presented in this form previously in this report, it may be helpful to review what this shows. If all sites were arranged in an order determined by the proportion of participants reporting increased contributions, one fourth of sites would have 21% or fewer participants reporting such increases, one half would have 48% or less, three fourths 73%, and the maximum proportion reported would be 97%. This indicates a wide range of differing proportions of participants reporting increased contributions. Since, by definition, those participants who believe their meal is free could not increase their "contributions," there is an inverse relationship between the proportion reporting increases and the proportion believing the meals are free. Indeed, the few sites where no one reported an increased contribution are probably the same few where virtually everyone thought the meals were free.

K. Respondent Characteristics Related to Increasing Contributions

Multiple regression analyses[1] similar to those discussed earlier were employed to identify elderly characteristics related to having increased contributions to the congregate dining site. Results for current and former participants are described below. Similar analyses were conducted to identify home-delivered meal recipients' characteristics related to increasing contributions and these are discussed in the Home Delivery Service analytic chapter.

1. Congregate Dining Participants' Experiences and Perception

- Attendance Frequency
  More frequent site attendees were more likely to have increased their contributions.

- Perceptions of Contributions Policy
  Those who perceived that the site "charged" for the meal were more likely to have increased their contribution.

As these two variables were correlated, the former is used in Table VI-13 to illustrate these findings in a summary fashion.[2] As shown, those who attend the meal site 4-5 times per week were most likely to have increased their contributions (56%), and those who attend less often than once per week were least likely to have increased their contributions (42%).

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[1] See Appendix G for a description of the analytic technique.

[2] See Appendix G for other illustrative tabulations.

TABLE VI-13

RELATIONSHIP BETWEEN SITE[1,2] ATTENDANCE FREQUENCY AND INCREASING CONTRIBUTIONS

Increased Contribution[3]	Participants: Attend 4-5 Times Per Week (N=703)	Attend 1-3 Times Per Week (N=592)	Attend Less Often (N=241)
Yes	56%	48%	42%
No	43%	50%	56%
No Response	1%	2%	2%
TOTAL	100%	100%	100%

[1]Source: Q. A10A, A1: How often do you usually go to this site for a hot meal?

[2]Elderly who felt the meal was "free" are not included in this analysis.

[3]Percentages differ significantly (x^2 , 2 df, = 14.3, $p < .01$). More frequent attendees are more likely to have increased their contributions to their sites.

2. Congregate Dining Participants' Lifestyle and Demographic Characteristics

Two characteristics were found to be related to whether elderly had increased their site contributions:

- Minority Status

  Non-minority participants were more likely to have increased their contributions. Minority elderly tended to have lower incomes and felt their incomes were slightly less adequate to take care of their needs.[1,2]

- Encouragement to Attend

  Elderly persons who were encouraged by others attending the same religious services to attend were more likely to increase their contributions.

The relationship between minority status and increasing contributions is portrayed in Table VI-14 to illustrate these findings. Whereas slightly more than one-third (36%) of minority elderly had increased their donations, slightly more than one-half (53%) of non-minority elderly reported doing so.

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[1] A small but significant relationship was found between minority status and 1981 income ($r = +.16$, $df = 1,732$, $p < .01$), and between minority status and perceived income sufficiency ($r = -.15$, $df = 1,732$, $p < .01$).

[2] (Half of the sites have no minority participants, an additional quarter have 16% or less minority participants, leaving most of the minority participants in the remaining 25% of sites. In 17% of the sites, minority participants are more than half the population.)

TABLE VI-14

RELATIONSHIP BETWEEN MINORITY STATUS[1,2,3]
AND INCREASING CONTRIBUTIONS

Increased Contribution[4]	Minority (N=199)	Non-Minority (N=1,346)
Yes	36%	53%
No	62%	45%
No Response	2%	2%
TOTAL	100%	100%

[1]Source: Q. A10A, L8: Race of respondent: _____(Asked of interviewer).

[2]Those who felt the meal was "free" are not included in this analysis.

[3]A more detailed distribution for this item is in Appendix G.

[4]Percentages differ significantly (x^2, 1 df, = 18.9, $p < .01$). Minority persons were less likely to have increased their contributions to their sites.

3. Former Participants' Experiences and Perceptions

Former participants' recall of past experience with and perceptions of the Service was not strongly related to whether they recollected having increased their contributions while still actively participating in the Service.[1]

4. Former Participants' Lifestyle and Demographic Characteristics

Three lifestyle/demographic variables were found to be associated with increased contributions: whether people currently ate alone, 1981 family income, and minority status.

The meaning of the first two associations is equivocal, since eating patterns and income may have changed since the time during which former participants were still active at sites. Thus, no further analyses are prudent.

Although only a small percent of former participants were minority persons (18%, n=36), these older persons were less likely to have increased their contributions. Because of the small size of this sub-population, this relationship is not displayed in a table.

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[1]Multiple regressions revealed that none of former participants' experiences or perceptions reliably predicted contributions increases. See Appendix G.

L. Increases in Contributions by Income and Income Sufficiency

Among those participants who pay something, there is a tendency for those with higher incomes to be more likely to have increased their contributions (see Table VI-15). However, the impact of subjective judgements of income sufficiency on behavior is pointed out in Table VI-16, where the pattern of those who feel they are better off being more likely to have increased payment is more apparent.

TABLE VI-15

RELATIONSHIP BETWEEN INCREASED CONTRIBUTIONS AND INCOME[1,2]

		1981 Household Income		
	Total	Less Than $4,000	$4,000-$9,999	$10,000 or More
	(N=1,550)	(N=375)	(N=777)	(N=334)
Yes	51%	47%	51%	55%
No	47%	51%	48%	43%
No Response	1%	2%	1%	2%
TOTAL	100%	100%	100%	100%

[1]Source: Q. I9, A10a

[2]Percentages do not significantly differ (χ^2, 2 df, = 4.5, p > .05)

TABLE VI-16

RELATIONSHIP BETWEEN INCREASED CONTRIBUTIONS[1,2] AND PERCEIVED INCOME SUFFICIENCY

		Income Takes Care of Needs		
	Total	Very Well	Fairly Well	Poorly
	(N=1,550)	(N=542)	(N=806)	(N=179)
Yes	51%	55%	51%	37%
No	47%	43%	47%	61%
No Response	2%	2%	2%	2%
TOTAL	100%	100%	100%	100%

[1]Source: Q. H2/A10a

[2]Percentages differ significantly (χ^2 , 2 df, = 19.6, p < .01).

M. Opinions of Meal Cost

Elderly whose contributions were "set" by the site were queried regarding their opinions of meal cost. As shown in Table VI-17, 84 percent of current participants saw the cost as "about right" and 9 percent felt it was "too little." Only a small percentage (3%) reported either that the meal cost "too much" or ". . .should be free." Former participants were, however, more likely to be of the opinion that the meal "should (have been) free" or that it had cost "too much" (10%).

The opinions of recent entrants and longer-term participants as well as those elderly attending pre-1975 and post-1975 sites closely paralleled the responses of all current participants (see Tables VI-18, VI-19).

TABLE VI-17

OPINION OF MEAL COST BY PARTICIPANTS[1]
WHOSE SITES SET AMOUNTS CONTRIBUTED

Opinion of Meal Cost[3]	Participants (N=886)	Former Participants (N=128)
"Meal Should Be Free"/ Costs "Too Much"	3%	10%
Costs "About Right"	84%	73%
Costs "Too Little"	9%	11%
No Opinion	2%	5%
Do Not Know/ Could Not Recall	2%	*
TOTAL	100%	99%[2]

[1]Source: Q. A12: Do you think the amount of money you are/were asked to pay is/was too much, too little, about right, or should the meal be free?

[2]Total differs from 100% due to rounding.

[3]Percentages differ significantly (χ^2 , 1 df, = 8.8, $p < .01$). Former participants were likely to feel the "meal should have been free/cost too much" and less likely to feel the cost was "about right."

TABLE VI-18

OPINION OF MEAL COST BY LONGER-TERM[1] AND RECENT ENTRANTS WHOSE SITES SET AMOUNT CONTRIBUTED

Opinion of Meal Cost[3]	Recent Entrants (N=415)	Longer-Term (N=471)
"Meal Should Be Free"/ Costs "Too Much"	4%	3%
Costs "About Right"	84%	85%
Costs "Too Little"	10%	8%
No Opinion	*	2%
Do Not Know	1%	1%
TOTAL	99%[2]	99%[2]

[1]Source: Q. A12

[2]Total differs from 100% due to rounding.

[3]Percentages reporting "Should be free/too much," "about right," and "too little" do not differ significantly (χ^2, 2 df, = 1.6, $p > .05$).

TABLE VI-19

OPINION OF MEAL COST BY PRE-1975[1] AND POST 1975 SITE ATTENDEES WHOSE SITES SET AMOUNTS CONTRIBUTED

Opinion of Meal Cost[3]	Attend Post-1975 Site (N=539)	Attend Pre-1975 Site (N=351)
"Meal Should Be Free"/ Costs "Too Much"	3%	4%
Costs "About Right"	85%	82%
Costs "Too Little"	8%	10%
No Opinion	1%	1%
Do Not Know	1%	2%
TOTAL	98%[2]	99%[2]

[1]Source: Q. A12

[2]Total differs from 100% due to rounding.

[3]Percentages reporting "should be free/too much," "about right," and "too little" do not differ significantly (x^2, 2 df, = 1.6, $p > .05$).

N. Perceived Savings Associated with Attendance

The vast majority (83%) of current site participants reported that attending meal sites saves them at least "a little" money. A very small minority (3%) felt it cost them money (see Table VI-20). As a group, former participants were less likely to feel that attendance had saved them money (70% vs. 83% of current participants).

Tables VI-21 and VI-22 present the opinions of current participant sub-populations. Recent entrants and longer-term participants were very likely to report savings. In a similar fashion, over 80 percent of participants attending either pre-1975 or post-1975 sites felt that the program had saved them money.

Comparing 1976-77 and 1982 results shows the proportion of those participants feeling they save money by eating at the site is essentially unchanged (see Table VI-23).

TABLE VI-20

PERCEIVED SAVINGS ASSOCIATED[1]
WITH SERVICE ATTENDANCE

Perceived Savings[2]	Participants (N=1,735)		Former Participants (N=249)	
Save A Lot	24%		10%	
Save Some	37%	83%	33%	70%
Save A Little	22%		27%	
Save Nothing	11%		17%	
Costs Money	3%	14%	6%	23%
Do Not Know	3%		6%	
No Response	*		1%	
TOTAL	100%		100%	

[1]Source: Q. B10: Does/Did it save you a lot of money, some money, a little money, or no money, to eat at the site, or does/did it cost you money?

*Denotes less than 1%.

[2]Percentages differ significantly (χ^2 , 1 df, = 17.1, $p < .01$). Former participants were less likely to report savings and more likely to report the meal had "saved nothing" or "cost (them) money."

TABLE VI-21

PERCEIVED SAVINGS ASSOCIATED[1]
WITH SERVICE ATTENDANCE:
RECENT ENTRANTS VS. LONGER-TERM

Perceived Savings[2]	Recent Entrants (N=857)		Longer-Term (N=878)	
Save A Lot	23%	83%	25%	82%
Save Some	38%		36%	
Save A Little	22%		21%	
Save Nothing	11%	14%	12%	15%
Costs Money	3%		3%	
Do Not Know	3%		3%	
TOTAL	100%		100%	

[1]Source: Q. B10

[2]Percentages reporting savings and saves nothing/costs money do not differ significantly (x^2, 1 df, = 0.3, $p > .05$).

TABLE VI-22

PERCEIVED SAVINGS ASSOCIATED[1]
WITH SERVICE ATTENDANCE:
PRE-1975 VS. POST-1975 ATTENDEES

Perceived Savings[2]	Attend Post-1975 Site (N=903)		Attend Pre-1975 Site (N=832)	
Save A Lot	26%		21%	
Save Some	36%	83%	38%	81%
Save A Little	21%		22%	
Save Nothing	11%		12%	
Costs Money	3%	14%	3%	15%
Do Not Know	3%		4%	
TOTAL	100%		100%	

[1]Source: Q. B10

[2]Percentages differ significantly (χ^2, 1 df, = 5.2, $p < .05$). Pre-1975 site attendees were less likely to report attendance saved them "a lot."

TABLE VI-23

PERCEIVED SAVINGS ASSOCIATED[1]
WITH SERVICE ATTENDANCE

Perceived Savings	1976-77 Recent Entrants (N=1,831)		1976-77 Longer Term (N=922)		1982 Recent Entrants (N=857)		1982 Longer Term (N=878)	
Save a Lot	24%		25%		23%		25%	
Save Some	33%	81%	38%	84%	38%	83%	36%	82%
Save a Little	24%		21%		22%		21%	
Save Nothing	12%		13%		11%		12%	
Costs Money	3%	15%	1%	14%	3%	14%	3%	15%
Do Not Know/ No Response	4%		3%		3%		3%	
TOTAL	100%		101%[1]		100%		100%	

[1]Percentages totals from the earlier study may not add to 100% due to rounding.

O. Respondent Characteristics Related to Perceived Savings

Multiple regression analyses[1] were conducted to identify respondent characteristics associated with perceived savings. These analyses revealed several interesting findings for current participants, but did not yield statistically significant relationships for former participants. The lack of reliable patterns for former participants is not unusual given that the measure of interest, perceived savings, was based upon recall of perceptions more remote in time. Below, we describe the results for current congregate dining Service participants.

1. Congregate Dining Participants' Experiences and Perceptions

- Attendance Frequency

  Elderly participants who attended at least once per week were more likely to feel that Service attendance had saved them money.

- Transportation Difficulties

  Although very few persons had trouble getting to the site, those who did experience some difficulty were more likely to feel the program saved them money.

- Pleasantness of Site

  The more "pleasant" the site was rated, the greater the perceived savings.

- Food Palatability

  If they felt the food usually tasted good, respondents were more likely to feel that Service attendance saved them money.

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[1] See Appendix H for a description of the analytic technique.

Because these variables were correlated, we have chosen to illustrate these data in a summary fashion in Table VI-24.[1] This table displays the relationship between attendance frequency and perceived savings. As can be seen, those who attended at least once per week were more likely to feel attendance had saved them money (85% vs. 69% of less frequent attendees).

2. Congregate Dining Participants' Lifestyle and Demographic Characteristics

Separate multivariate analyses revealed the following associations.

- General Mobility
  Those who were able to leave their home on a frequent basis were more likely to perceive savings associated with site attendance.

- Inviting Others to Eat
  The more often participants invited others to their homes to dine, the lower the perceived savings associated with meal site attendance.

Because these variables were related, one relationship (inviting others to dine) is presented in Table VI-25 to illustrate all findings in a summary manner. As can be seen, the percentage reporting that Service attendance saved "a lot" varies as a function of how often they invited others to their homes for meals. Those who invited others more often "rarely" may have had larger grocery bills, and thus, meals consumed at the site are probably less likely to offset higher food costs associated with entertaining friends or family.

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[1]Detailed tabulations illustrating other relationships discussed in the text are contained in Appendix H.

TABLE VI-24

RELATIONSHIP BETWEEN ATTENDANCE[1,2,3] FREQUENCY AND PERCEIVED SAVINGS

Perceived Savings[4]	Participants: Attend 1-5 Times A Week (N=1,458)		Participants: Attend Less Often (N=260)	
Save A Lot	25%		18%	
Save Some	39%	85%	27%	69%
Save A Little	21%		24%	
Save Nothing	10%		18%	
Costs Money	2%	12%	8%	26%
Do Not Know	3%		5%	
No Response	--		*	
TOTAL	100%		100%	

[1]Source: Q. B10, A1

[2]Those who did not report attendance frequency are deleted from this analysis.

[3]A detailed distribution is contained in Appendix H.

*Denotes less than 1%

[4]Percentages differ significantly (χ^2, 1 df, = 38.1, $p < .05$). Elderly who attended at least once per week were more likely to report attendance saved them money.

TABLE VI-25

RELATIONSHIP BETWEEN FREQUENCY[1,2,3] OF INVITING OTHERS TO EAT AND PERCEIVED SAVINGS

Perceived Savings[4]	Participants		
	Invite Others Often (N=293)	Invite Others Sometimes (N=586)	Invite Others Rarely/Never (N=849)
Save A Lot	24%	20%	27%
Save Some	36%	38%	37%
Save A Little	22%	23%	20%
Save Nothing	13%	12%	11%
Costs Money	2%	4%	2%
Do Not Know	3%	3%	3%
No Response	*	--	--
TOTAL	100%	100%	100%

[1]Source: Q. B10, E6: How often do you invite friends or relatives to have lunch or dinner with you--often, sometimes, rarely, or never?

[2]Those who did not respond to Q. E6 are deleted from this analysis.

[3]A detailed distribution for this item is found in Appendix H.

[4]Percentages differ significantly (x^2, 2 df, = 9.5, $p < .01$). Percentages reporting they had saved "a lot" differed significantly.

*Denotes less than 1%.

P. Site Data Related to Participant Contributions for Meals

Data about the average participant contribution for meals were available for 68 of the 70 service providers. In most cases, these averages were obtained from the nutrition service director and also were recorded by the Kirschner staff member during site visits. The two sources were in close agreement ($r = .90$, $df = 60$, $p < .01$), with the means for the two sources differing only by 3¢. Because the nutrition service directors' reports were based upon longer periods, they were chosen for all further analyses, unless only the site values were available.

The mean amount contributed by congregate participants is $.57 per meal and $.62 for home-delivered meals. The providers' figures for contributions from congregate participants range from $.06 to $1.30. Table VI-26 summarizes the distribution of these figures more fully. The distribution is somewhat skewed, with more providers clustered near the lower end of the scale. Fewer than 10% of providers receive participant contributions averaging more than a dollar per meal.

1. Contribution Policies and Practices.

The nutrition service directors and site managers were asked about various policies and practices regarding participant contributions for meals. All of these staff, with the exception of one site manager, reported that the participants in their program make donations as opposed to paying for the meals or receiving free meals. (The one site manager reported that participants "paid" for their meals.) Thus, from the staff perspective there is a clear policy of encouraging and receiving contributions rather than requiring payment for meals. However, other data suggest that there is more variation among the site managers in the actual message about contribution that reaches participants.

TABLE VI-26

CONGREGATE PARTICIPANT'S CONTRIBUTIONS FOR MEALS

Average Contribution[1]	Number of Providers
_ $.25 per meal	14 (22%)
.26 - .50	18 (28%)
.51 - .75	16 (25%)
.76 - 1.00	11 (17%)
1.01 - 1.25	5 (8%)
1.26 or more	1 (1%)
Median Contribution for 68 Providers	: $.52
Mean Contribution	: $.57
Standard Deviation	: $.32
Range of Amounts	: .06-1.30

[1]Reported by nutrition service directors.

a. Suggested Amounts

A major point of variation in practice among providers is found in their suggestion of an appropriate contribution amount. Eighteen (26%) of the nutrition service directors reported that no particular amount was suggested to participants in their programs. Thirteen (19%) of the site managers reported a policy of no suggested amount. Of greater interest, for an appreciable number of sites there was little agreement between the staff members about their policy: there were ten cases where the nutrition service director reported "no suggested amount" but the site manager reported an amount; there were five cases where the director identified an amount but the site manager said there was none. Among the 55 sites where suggested amounts were reported by both staff members, there were eight cases where the amounts differed, the site managers tending to report higher suggested amounts than the nutrition service directors.[1] Kirschner field staff members were asked, on the basis of their site visits, to clarify the actual policy and amount in effect, thus providing a third source of data about suggested contributions. The three sources were then used to arrive at a best characterization of the practice at each site. These practices are summarized in Table VI-27.

Suggested amounts for contributions tend to be set at 25¢-points, for example, $.50 (15% of the cases), .75 (23%), 1.00 (29%), or 1.25 (13%). The mean suggested amount for the 1982 sample is $.87, considering only those sites which do suggest an amount. This amount is far less than the total cost of a meal (determined to be $4.09 on average), and at a majority of sites the suggested amount does not even cover the cost of the food served in a typical meal.

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[1] A correlation analysis of the suggested amounts reported by the director and the manager of each site yielded $r = .71$, $df = 44$, $p < .01$; this indicates significant but modest agreement among the staff members with regard to the amount suggested. In spite of this lack of unanimity, the sample-wide average suggested amount was the same for site managers and for directors ($.87).

TABLE VI-27

SUGGESTED AMOUNTS FOR PARTICIPANTS' CONTRIBUTIONS

Amount[1]	Number of Sites	
No Suggested Amount	11	(16%)
$.25 or less suggested	5	(7%)
.26 - .60	11	(16%)
.61 - .99	17	(24%)
1.00 - 1.49	21	(30%)
1.50 or more	5	(7%)

For sites with a suggested amount,		
Median amount suggested	:	$.75
Mean amount suggested	:	$.87
Standard deviation	:	$.36
Range of amounts	:	.05-1.70

Number of Participants Who Contribute Suggested Amount[2]	Number of Sites	
All	4	(7%)
Most	32	(57%)
About half	9	(16%)
Less	9	(16%)
None	2	(4%)

[1]Amount analyzed is based upon staff and field visit reports. Two site managers reported a sliding scale in effect, in which case the midpoint of the scale was considered.

[2]As reported by 56 site managers.

Table VI-27 also summarizes site managers' responses when questioned about how many participants give the suggested amount (at those sites where an amount is suggested). A majority of the managers reported that "most" participants contribute the suggested amount, a fact that is consistent with observations that can be made by comparing the average suggested amount (Table VI-27) to the average actual contribution (Table VI-26). Considering either the mean or the median figures in the two tables it is evident that the average actual contribution is about two-thirds of the average suggested amount. The relationship between suggested amounts and actual contributions will be explored further, below.

How are suggested amounts set by providers? Both the nutrition service directors and the site managers were asked who was involved in making decisions about participants' contributions. Again, there was lack of consensus in the responses, although the directors generally appeared more knowledgeable about the issue. Forty-nine (70%) of the directors (and 40% of the managers) reported that an advisory council had been involved in these decisions; 36% of the directors said that the area agency on aging had been involved; 29% of the directors (and 44% of the managers) reported involvement of others, including city/county officials, site council members, a host agency, a state agency, boards of directors, and participants.

Table VI-28 lists the factors which nutrition service directors cited as considered in setting contribution policy. The factor cited most frequently, and noted as most important, was the provider's meal costs. Approximately half of the directors also reported consideration of participant income levels.

Site practices regarding the suggested amounts clearly emphasize flexibility. Virtually all of the nutrition service directors said that participants could contribute less than the suggested amount, could contribute at a later time, or need contribute nothing at all. Most of the directors also said that participants could perform volunteer work in lieu of contributing. This flexibility was somewhat less evident at the site

TABLE VI-28

FACTORS CONSIDERED IN POLICY-SETTING REGARDING PARTICIPANTS' CONTRIBUTIONS

Factor	Providers Considering[1]		Cited as Most Important[2]	
Provider Meal Costs	47	(70%)	26	(42%)
Participant Income	32	(48%)	22	(35%)
Willingness to Pay	22	(33%)	8	(13%)
Other Factors[3]	18		7	

[1]According to reports by 67 nutrition service providers.

[2]Reported by 62 nutrition service directors.

[3]Other factors noted, in order of frequency and importance, were: reduction in federal funding, experiences of other sites, matching formulae, history of the provider, and site resources, site location, and marital status of participants.

managers' level. About half of the managers indicated that participants unable to contribute could obtain a free meal, although one manager said that they could not. About half of the managers reported that participants unable to contribute the suggested amount could contribute what or when they could.

b. Collection of Contributions

Methods of collecting contributions are of interest for at least two reasons: (1) learning which methods are preferred now that sites have been operating for several years, and (2) assessing the privacy/anonymity of the system. Both the nutrition service directors and the site managers were asked about the method(s) in use, and, Kirschner field staff members observed contribution practices during site visits. Although nine methods were anticipated, predominant site practices actually fell into only four categories. At 75% of the sites the prevailing practice is for participants to drop their contributions into a container. Usually the container is placed near the entryway, although sometimes it is passed at the table or placed in an inconspicuous spot. At 16% of the sites contribution envelopes are filled at the dining tables. At the remaining sites the prevailing method is to pay in advance (4%) or to hand contributions to a staff member (4%). At a few sites two or more methods of collecting contributions are in effect.

Although virtually all service directors say that contributions are a private matter and are made anonymously, Kirschner field staff noted several instances where this is probably in fact not the case. For example, at sites where contributions are made in advance, where they are handed to a staff member, or where someone watches as contributions are placed in a container, the contributions are potentially identifiable. In one instance, the practice was for participants to write their names on the envelopes used for contributions. At about 15% of the sites, the collection practices are probably not anonymous. On the other hand, at the great majority of sites' contributions appear to be made with true anonymity.

c. Variables Related to Contribution Levels

Given the great variability observed in average level of participant contributions (see Table VI-26), what factors might explain such variation? A large number of operational variables were examined in conjunction with sites' average contribution level.[1] These analyses were all correlational in nature. Consequently, even when a factor is noted below to be strongly related to contribution level there will be little evidence that contribution differences are caused by that variable.

Average contributions are higher at sites with higher suggested contribution levels ($r = .53$, $df = 66$, $p < .01$). However, there is no independent evidence to suggest whether higher contributions are a result of higher suggested amounts, whether the suggested amounts are set in part on the basis of past (or expected) contributions, whether both of the above are true, or whether the relationship is due to some third factor. Recall that many providers reported considering participant income and willingness to pay when setting suggested contribution amounts (Table VI-25). Thus, it certainly is possible that the strong relationship between amount suggested and amount given is, at least in part, a matter of setting the suggested amount at a locally-realistic level. Suggested contribution level was not found to be related to 1980 per capita county income for the sites in the example, but the per capita county figures may not be a valid index of elderly participants' ability to pay for meals.

There was a significant relationship between average contribution level and whether or not meal cost was considered in setting a suggested amount ($\chi^2 = 9.8$, $df = 3$, $p < .05$). Those providers which reported

[1] Either a Pearson Product-Moment correlation coefficient was calculated, in the case of two continuous variables, or chi-square analyses were performed on contingency tables, in the case of one or more discrete variables.

consideration of meal cost when setting a suggested contribution amount tend to receive higher average contributions. There is confirmation for this relationship in the fact that actual estimated cost per meal (calculated from budget and attendance data) was related to average contribution level (r = .28, df = 60, p < .05). Providers with higher per-meal costs also receive higher per-meal contributions from participants. None of several other factors which might be considered when suggesting what participants should contribute--for example, participants' incomes or their willingness to contribute--were found to be related to the suggested contribution amount or to the actual amount contributed.

Finally, it also was found that providers where the director and site manager agree on the suggested amount for contributions also receive higher average contributions than do those where there is disagreement about the amount (χ^2 = 8.4, df = 3, p < .05). In this case it is difficult to conceive of a better interpretation than that agreement within the staff about the suggested amount sends a more effective message to the participants.

Many additional variables were examined in conjunction with average contribution level and were found to be unrelated. These variables included measures of program size, recruitment policies, availability of other activities at the sites, participant-staff interaction and attitudinal measures, volunteerism, and method of collecting contributions.

CHAPTER VII

PRIORITY PARTICIPANTS

A. The "Priority" Population

Serving elderly persons with the greatest need has always been a goal of the Nutrition Services because problems faced by the nation's older population may be more acute among those with the following priority characteristics.

Low income[1]
Minority status
Social isolation
Mobility impairment
Limited ability to speak English
75 years of age or older

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[1]During Wave I low income was defined as below $4,000; it was defined as below $6,000 for Wave II. Both figures are below U.S. Department of Labor estimates for a "lower budget" for a retired couple in 1975 ($4,695) and 1981 ($7,226).

B. Overview of Key Findings

- Most persons interviewed have at least one priority characteristic. Home-delivered meal recipients are most likely to have priority characteristics.

- From site to site, there is considerable variability in the distribution of priority non-participating neighbors implying that sites are located in areas with different levels of "needs."

- Sites appear to be successful in enrolling the "neediest" older persons from their locales.

- Priority participants are more frequent site attendees and rely more upon site assistance to get to their sites.

- Priority participants get more of the basics of the Nutrition Services (meals), but are somewhat less aware of support services except for site shopping assistance which they are more likely to utilize than non-priority participants.

- Priority participants' dietary intakes are enhanced by consuming a program meal.

C. Priority Characteristics of Respondents

A finding which sets the context for the discussion of the data is that most respondents, regardless of program status, have priority characteristics (see Table VII-1). The average number of priority characteristics is one indicator of the neediness of the population. By this measure the recipients of home-delivered meals are by far the most needy (average = 2.4 priority characteristics per person), and non-participating neighbors are the least needy (average = 1.4 priority characteristics per person), with congregate participants and former participants both in a middle range (average = 1.7 - 1.8 priority characteristics per person).

As can be seen in Table VII-1 a higher proportion of former participants than of the current congregate participants have priority traits (88% vs. 78%). This is largely because, as a group, former participants are older, although low income and impaired mobility are also contributing factors. Former participants who are older, more infirm, and modestly poorer than congregate participants are, even more than before, the kind of people that the Nutrition Services seek to serve. A discussion of the former participant group as a potential service population is presented in the Home-Delivery Service chapter in this volume of the report.

Nearly three-quarters of the home-delivered meal recipients have impaired mobility, two-thirds of them are 75 or older, and roughly another two-thirds have low incomes, suggesting that the home-delivery program is serving a very needy population.

One other interesting finding is that congregate participants are least likely to be mobility impaired (11%) -- even less likely than non-participating neighbors (17%). It is possible that this is an artifact of the measure of mobility impairment used. By letting people who do not get out of their home as often as once a week qualify as mobility impaired a number of able-bodied non-participating neighbors who simply choose not

TABLE VII-1

	Percent Qualifying[1] as Priority	Average Number of Qualifying Characteristics Per Priority Elderly Person
Home-delivered meal recipients	96% (N=415)	2.4
Former participants	88% (N=249)	1.7
Congregate participants	78% (N=1,735)	1.8
Non-participating neighbors	76% (N=1,039)	1.4

[1]Priority elderly persons have at least one of the following characteristics:

Low income - less than $6,000 annually (Q. I9)

Minority status (Q. L8)

Social isolation - an index involving number of friends (Q. F6), existence of a confidante (Q. F7), recent loneliness (Q. F9h), recent visits from own children (Q. G9), and presence of spouse/roommate (Q. I4).

Mobility impairment - a composite measure requiring at least one of the following:
(a) inability to clean/maintain own home (Q. C3), or
(b) frequency of leaving the house of less than once a week (Q. C1), or
(c) inability to go outdoors without assistance (Q. C4).

Limited ability to speak English - (Q. L14)

Advanced age - 75 or older (Q. I5).

to leave home are classified as "priority persons." Their neighbors, who may be in comparable physical condition but who go daily to the meal site, are not classified as mobility impaired. It is also possible that there are genuinely non-mobile, non-participating neighbors who are being cared for by a spouse, other family, or friends, and so do not now need the meals program.

The priority characteristics matrices in Tables VII-2 and VII-3 provide additional descriptive information regarding priority participants. Table VII-2 shows the percentage of congregate participants with one priority characteristic who also had one of the other priority characteristics. First, these data show that congregate participants most frequently qualified as "priority" persons due to low income (901 of 1,735 or 52% had low incomes). In summary, the table also shows:

- Low income participants were quite likely to also be 75 years of age or older (45%).

- Minority participants were very likely to have low incomes (73%).

- One half (50%) of socially isolated persons had low incomes.

Table VII-3 provides a similar matrix for home-delivered meal recipients. This group was most frequently characterized by advanced age (67% or 277 of 415). Other data show that:

- Nearly three-quarters (74%) of low income persons had impaired mobility.

- Seventy-seven percent who were minority persons also had low incomes.

- Socially isolated individuals were likely to have impaired mobility (73%).

- Those with impaired mobility were likely to be at least 75 years of age (69%).

TABLE VII-2

PERCENT OF RESPONDENTS WITH SPECIFIC PRIORITY TRAITS

	Priority Traits					
	Low[1] Income	Minority Status	Social Isolation	Mobility Impairment	Limited Ability to speak English	Advanced[2] Age
Home-delivered Meal Recipients (N=415)	64%	15%	19%	72%	2%	67%
Former Participants (N=249)	61%	14%	17%	22%	*	59%
Congregate Participants (N=1,735)	52%	19%	17%	11%	2%	41%
Non-Participating Neighbors (N=1,039)	46%	18%	15%	17%	1%	40%

[1]Below $6,000 annual 1981 income.

[2]75 years of age or older.

*Denotes less than 1%.

TABLE VII-2 (Continued)

PRIORITY CHARACTERISTIC MATRIX FOR CONGREGATE PARTICIPANTS

	Low[1] Income (N=901)	Minority Status (N=321)	Social Isola-tion (N=297)	Impaired Mobility (N=192)	Limited English (N=38)	Advanced[2] Age (N=713)
Low income[1]	100%	73%	50%	62%	89%	56%
Minority status	26%	100%	15%	23%	95%	15%
Social isolation	17%	14%	100%	17%	18%	15%
Impaired mobility	13%	14%	11%	100%	21%	18%
Limited English	4%	11%	2%	4%	100%	2%
Advanced age[2]	45%	33%	35%	67%	45%	100%

[1]Less than $6,000 in 1981.

[2]75 years of age or older.

TABLE VII-3

PRIORITY CHARACTERISTIC MATRIX FOR HOME-DELIVERED MEAL RECIPIENTS

	Low[1] Income (N=267)	Minority Status (N=64)	Social Isola-tion (N=77)	Impaired Mobility (N=299)	Limited English (N=9)	Advanced[2] Age (N=277)
Low income[1]	100%	77%	68%	66%	78%	67%
Minority status	18%	100%	10%	15%	89%	12%
Social isolation	19%	13%	100%	19%	0%	19%
Impaired mobility	74%	70%	73%	100%	44%	74%
Limited English	3%	13%	0%	1%	100%	2%
Advanced age[2]	70%	53%	70%	69%	67%	100%

[1]Less than $6,000 in 1981.

[2]75 years of age or older.

D. Distribution of Priority Respondents

Because most of the respondents had priority characteristics (regardless of whether they were enrolled in the program) most participants at most sites were priority participants. Table VII-4 presents the distribution of priority respondents across sites. Since data have not been presented in this manner previously, we will describe what this table shows.

Referring to the first column in Table VII-4, at 72 percent (N=41) of the 57 sites that provided home-delivery service, 100 percent of home-delivered recipients were priority persons. Additionally, at 84 percent of sites, at least 90 percent of home-delivered meal recipients were priority older persons. These data reinforce earlier findings that the vast majority of home-delivered meal recipients throughout sampled sites are likely to have priority traits.

There are two interesting questions regarding the remainder of the data in Table VII-4.

First, are the proportions of priority non-participating neighbors about the same at most sites? If there is little variability in the distribution (e.g. a majority in most site locales are priority) it is reasonable to conclude that sampled sites have been established in comparably "needy" areas.

Table VII-4 shows considerable variability in the distribution of priority non-participating neighbors, implying that congregate sites exist in neighborhoods with very different levels of need. At about one-quarter of sites (23%) at least 90 percent of non-participants had priority characteristics, but at 97 percent of locations less than 50 percent priority characteristics.

The second major question of interest is whether the distribution of priority participants is similar to the distribution of priority non-participating neighbors. If, for example, the proportion of congregate participants with priority characteristics exceeds the percent of non-participants at sites, one may infer that the Nutrition Service is successfully enrolling more "needy" older persons from their service areas.

TABLE VII-4

PERCENT OF SITES WHERE AT LEAST X% OF RESPONDENTS HAVE PRIORITY TRAITS

Percent Who Are Priority	Home-Delivered Meal Recipients (N=57 sites)	Congregate Participants (N=70 sites)	Non-Participating Neighbors (N=69 sites)[2]
100%[1]	72%[1]	13%[1]	9%[1]
90%	84%	29%	23%
80%	95%	46%	44%
70%	96%	74%	64%
60%	96%	86%	83%
50%	98%	94%	94%
40%	98%	100%	97%
30%	98%		99%
0%	100%		100%

[1]The table should be interpreted as follows.

- At 72% of sites offering home-delivered meals, 100% of home-delivered meal recipients are priority persons.
- At 13% of congregate sites, 100% of congregate dining participants are priority persons.
- At 9% of congregate sites, 100% of non-participating neighbors are priority persons.

[2]At one location no non-participating neighbors were available to be interviewed.

One comparison from Table VII-4 is sufficient to illustrate that sites have had some success in this regard. At three-quarters of sites (74%), at least 70 percent of participants had priority characteristics, whereas at 64 percent of sites their non-participating neighbors were comparably needy (i.e. 70% had priority characteristics). This finding reinforces the earlier finding that, on the average, congregate participants had slightly more priority characteristics than their non-participating neighbors (see Table VII-1). This pattern is much stronger for the distributions of home-delivered meal recipients versus non-participating neighbors.

E. Service Experiences and Perceptions

The site experiences of priority and non-priority participants differ in some important respects. Priority participants get more of the Service basics, but are less aware of support services.

Data in Table VII-5 clearly show that priority participants are more frequent recipients of the meal component of the service. Also, priority participants are more likely to use special site transportation to get to congregate sites, although some still have somewhat more difficulty getting to sites. Priority and non-priority individuals rate site ambience and palatability of meals very highly.

Non-priority participants are more aware of both site nutrition education and site medical assistance. Priority participants, on the other hand are more aware of site shopping assistance (see Table VII-6), and, if aware, are more likely to utilize it (see Table VII-7).

Other comparisons revealed that priority congregate participants were more likely to feel that meals were free than non-priority participants (see Table VII-8). Those who did not feel meals were free were also asked whether they had increased their contributions. Priority elderly, as a total group, were less likely to have increased their contributions, but this is due to the low percentage of priority home-delivered meal recipients who had increased their contributions (see Table VII-9). Home-delivered meal recipients were among the least affluent respondents interviewed (see Home-Delivery Chapter in this volume).

TABLE VII-5

PRIORITY AND NON-PRIORITY SERVICE PERCEPTIONS AND EXPERIENCES

Experiences	Congregate Participants		Home-Delivered[2] Meal Recipients
	Priority (N=1,349)	Non-Priority (N=386)	Priority (N=399)
Eat A Service Meal 5 Times Per Week[1]	40%	27%	81%
Get to the Site by Special Transportation[1]	24%	7%	N/A
Have "No Trouble" Getting to Site[1]	88%	94%	N/A
Site Rated "Very Pleasant"	84%	82%	--
Food Usually Tastes Good	94%	93%	92%

N/A = Not Applicable

[1]Percentages differ significantly (all χ^2, 1 df, ≥ 10.9, all p's $< .01$). Priority congregate participants were more frequent site attendees and used site transportation more but had more trouble getting to sites than did non-priority congregate participants.

[2]Because only 16 home-delivered meal recipients did not have at least one priority characteristic, their data are not displayed.

TABLE VII-6

AWARENESS OF SUPPORT SERVICES
AMONG PRIORITY AND NON-PRIORITY PARTICIPANTS

Awareness	Congregate Participants		Home-Delivered Meal Recipients
	Priority (N=1,349)	Non-Priority (N=386)	Priority (N=399)
Aware of Site Nutrition Education[1]	52%	59%	N/A
Aware of Shopping Assistance[2]	27%	11%	16%
Aware of Site Medical Assistance[3]	50%	63%	21%

N/A = Not Applicable

[1]Non-priority participants were more aware (χ^2, 1 df, = 5.8, $p < .05$).

[2]Priority participants were more aware (χ^2, 1 df, = 36.1, $p < .01$).

[3]Non-priority participants were more aware (χ^2, 1 df, = 47.9, $p < .01$).

TABLE VII-7

UTILIZATION OF SUPPORT SERVICES
BY AWARE PRIORITY AND NON-PRIORITY PARTICIPANTS

Utilization	Congregate Participants		Home-Delivered Meal Recipients
	Priority (N=1,349)	Non-Priority (N=386)	Priority (N=399)
Participate in Site Nutrition Education	74% (N=697)	71% (N=162)	N/A
Utilize Site Shopping Assistance Whenever Offered[1]	32% (N=364)	10% (N=41)	29% (N=62)
Utilize Site Medical Assistance	53% (N=670)	51% (N=241)	54% (N=85)

N/A = Not Applicable

[1]Priority elderly were more likely to utilize this service (χ^2, 1 df, = 7.4, $p < .01$).

TABLE VII-3

PRIORITY AND NON-PRIORITY PARTICIPANT PERCEPTIONS
OF SITE CONTRIBUTION POLICY

	Congregate Dining Participants	
Perception[2]	Priority (N=1,349)	Non-Priority (N=386)
Free	12%	4%
Donation	68%	75%
Charge	19%	21%
Do Not Know	1%	*
	100%	100%

[1]Source: Q. A10

[2]Percentages differ significantly (χ^2, 1 df, = 20.7, $p < .01$). Priority participants were more likely to feel meals were free than non-priority participants.

*Denotes less than 1%.

TABLE VII-9

PRIORITY AND NON-PRIORITY PERCEPTIONS OF AND BEHAVIOR REGARDING CONTRIBUTIONS

	Congregate Participants		Home-Delivered Meal Recipients
	Priority	Non-Priority	Priority
Have Increased[1] Contribution	50% (N=1,187)	53% (N=371)	34% (N=291)
Save Money by Eating a Program Meal	82% (N=1,349)	84% (N=386)	83% (N=399)

[1]Percentages differ significantly (χ^2, 1 df, = 34.9, $p < .01$). Priority home-delivered meal recipients were less likely to have increased their donations than all congregate participants combined.

F. Program Impact Areas

Six key program impacts were examined in detail:

- Dietary Intake
- Mobility, Health and Institutionalization
- Psychological Well-Being
- Social Isolation
- Income and Perceived Income Sufficiency
- Longevity

Previous analyses of program impacts (see Chapter IV in this volume) relied upon examination of the responses of all persons who had been interviewed during Wave I of the evaluation (1976/77) and during Wave II (1982). Because it is difficult to make causal inferences regarding program impacts when measuring them at two widely separated points in time, here we will limit the analysis of program impacts upon priority participants to dietary intake, an area where causal inferences can be made with some confidence.

Data in Table VII-10 illustrate that the program is of considerable benefit from a dietary intake perspective. Three intake measures are displayed: total daily intake for 7 of 9 key nutrients, and for two nutrients that were found to be low-intake nutrients: calcium and calories (see Impacts Chapter in this volume for a complete discussion of dietary intake).

Priority and non-priority respondents who did not eat a program meal had comparable intakes of calcium and calories, although non-priority respondents were more likely to meet 2/3 RDA for 7 of 9 nutrients. Thus non-priority respondents had higher intakes in general but still show low intakes for nutrients consumed in relatively low quantities by older Americans.

However, Table VII-10 also shows a substantial benefit of consuming a program meal. Among priority respondents, those who consumed a program meal (whether home-delivered or congregate) had higher intakes for all three intake measures.

TABLE VII-10

PERCENTAGE OF PRIORITY AND NON-PRIORITY RESPONDENTS[1]
MEETING OR EXCEEDING 2/3 RDA
FOR KEY NUTRIENTS DURING WAVE II

	Priority Respondents			Non-Priority Respondents		
	Service Participants		Non-Participating Neighbors	Service Participants		Non-Participating Neighbors
Total Daily Intake[1,2]	Ate A Program Meal (N=982)	Did Not Eat A Program Meal (N=742)	Did Not Eat A Program Meal (N=789)	Ate A Program Meal (N=145)	Did Not Eat A Program Meal (N=238)	Did Not Eat A Program Meal (N=250)
Met or Exceeded 2/3 RDA for 7 of 9 Key Nutrients	75%	56%	61%	82%	72%	73%
Met or Exceeded 2/3 RDA for Calcium	61%	44%	46%	68%	52%	48%
Met or Exceeded 2/3 RDA for Calories	74%	64%	66%	77%	70%	69%

[1]Percentages differ significantly. Priority respondents who did not eat a program meal had lower intakes for 7 of 9 nutrients than non-priority respondents who did not consume a program meal (χ^2, 1 df, = 31.0, $p < .01$). These groups did not differ for calcium intake (χ^2, 1 df, = 3.3, $p > .05$) or for caloric intake (χ^2, 1 df, = 3.2, $p > .05$).

[2]Percentages differ significantly. Priority elderly who consumed a program meal had higher intakes than priority elderly who did not consume a program meal:

7 of 9 nutrients	(χ^2, 1 df, = 67.1, $p < .01$);
Calcium	(χ^2, 1 df, = 62.4, $p < .01$); and
Calories	(χ^2, 1 df, = 19.6, $p < .01$).

This finding supports earlier findings that for a majority of participants, the Nutrition Services are of considerable benefit when a meal is consumed. However, participants fare no better than non-participants if they do not eat a Services meal.

CHAPTER VIII

HOME-DELIVERY SERVICE

A. Introduction

From its inception the home-delivered meals program was designed to serve elderly with the greatest need. Title VII of the Older Americans Act of 1965 provided that meals could be delivered to the homes of elderly persons, but targeted this service to those over 60 who were "...homebound by reason of illness, incapacitating disability or...otherwise isolated." In 1978 home-delivery was funded separately under a new Title III C-2.

An earlier assessment of the home-delivered meals program noted that service providers and clients generally feel that the service helps frail elderly continue to function in their communities and stay out of nursing homes.[1] That report also concluded that home-delivery reduces the chances of poor nutrition among recipients, who may otherwise be unable to prepare meals for themselves, and provides an important source of social contact for frail and less mobile elderly citizens who may be socially isolated.

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[1] See The Home Delivered Meals Program: A Service Delivery Assessment, Office of the Inspector General, U.S. Department of Health and Human Services, February, 1981.

B. Overview of Key Findings

- The home-delivery service reaches elderly persons for whom the program was targeted. Compared to congregate participants, they are far less mobile and more home-bound, feel their health is worse and declining, and are less socially active. These findings largely confirm the perceptions of nutrition service directors.

- Nearly one-fifth had been referred to the home-delivery service by a social agency. Another one-quarter had switched from the congregate dining program.

- Sites may tailor their contribution practices to recipients' characteristics. Less mobile, less socially active and older respondents were more likely to feel the meal was free.

- A large majority of recipients felt the program had saved them at least some money.

- Average contributions were modest (approximately $.62) and very few respondents felt that suggested contribution levels were too high.

- Home-delivered meals were found to be palatable and appealing and the vast majority felt portions were adequate.

- Recipients rated both the meal and the person who delivers their meals quite positively. For home-bound elderly, daily meal delivery may be the most frequent contact they have with people from outside of their homes.

- Respondents who used site shopping assistance service were very likely to also use site medical assistance. This pattern is related to the fact that a large proportion of home-delivered meal recipients have restricted mobility and are in relatively poor health.

- Former participants are beginning to resemble home-delivered meal recipients in some important respects and may be a potential home-delivery service population.

C. Characteristics of Home-Delivered Meal Recipients

In an effort to enhance the likelihood that home-delivery services reach those who will most benefit, the vast majority of service providers report using eligibility criteria when enrolling elderly in the home-delivery service. As discussed earlier in this report, many providers consider such factors as the presence of illness, handicaps and restricted mobility, and age, although formulating a fair screening system responsive to individuals can be a difficult task.

In spite of the intrinsic difficulties of formulating and consistently applying equitable eligibility criteria, data from this evaluation clearly show that, in the main, home-delivery services reach the elderly sub-population for which they were targeted.[1]

This general conclusion is based upon two independently gathered sets of data: interviews of service staff and managers by Kirschner Associates, Inc., and interviews of elderly participants by Opinion Research Corporation.

Nutrition service directors have observed several key differences between their congregate and home-delivery service populations. To briefly recapitulate descriptive findings of this report (Volume III), directors noted that home-delivered meal recipients are in poorer health, are less mobile, are older, and are less socially active. In addition, they feel that home-delivered meal recipients have lower incomes.

The perceptions of nutrition service directors are confirmed by data gathered from elderly interviewees. These data are contained in Table VIII-1. On virtually every index of financial well-being, mobility, and health, home-delivered meal recipients are less well off than the sample of congregate dining participants.

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[1] This general conclusion was also reached by a prior study. See The Home-Delivered Meals Program: A Service Delivery Assessment, Office of the Inspector General, U.S. Department of Health and Human Services, February, 1981.

TABLE VIII-1

SELECTED CHARACTERISTICS OF CONGREGATE PARTICIPANTS AND HOME-DELIVERED MEAL RECIPIENTS

Characteristic	Congregate Participants (N=1,735)	Home-Delivered Meal Recipients (N=415)
Average Age	73 yr.	78 yr.
Live Alone	55%	61%
1981 Family Income Below $6,000	52%	65%
Income Takes Care of Needs Only "Poorly"	16%	24%
Household Receives Food Stamps	13%	19%
Receives Medicaid Benefits	18%	30%
Get Out of House Nearly Every Day	81%	24%[1]
Able to Clean and Maintain Home by Themselves	89%	41%[1]
Fair or Poor Current Health	25%	59%[1]
Health Worse Than Last Year	16%	38%
Spent Time in Hospital/Nursing Home in Past Year	23%	44%[1]
Rarely or Never Attend Religious Services	24%	63%[1]
Never Invite Others to Eat at Their Homes	23%	66%[1]

[1]Discriminant function analysis in Appendix R reveals that these variables maximally discriminate between the two groups. All univariate F values (df = 1 and 1,208) > 65.0, all p's < .01.

While the individual comparisons in Table VIII-1 are revealing, additional multivariate analyses[1] were conducted to identify those characteristics most powerfully differentiating congregate partipants from home-delivered meal recipients. These analyses statistically controlled for numerous variables (e.g. age, income ethnicity) that could account for differences between congregate dining and home-delivery sub-populations.

These analyses revealed that the two elderly service populations differed substantially in three important ways.

First, home-delivered meal recipients were far less mobile. As seen in Table VIII-1, they were less likely to frequently leave their homes and less able to care for their homes by themselves.

Second, home-delivered meal recipients reported that their health was worse than did congregate dining participants. Not only were they more likely to feel their overall health was worse, but they were more likely to have been either hospitalized or institutionalized in a nursing home during the past year.

Third, on two separate indices of life style/social activity, home-delivered meal recipients were quite different from comparable cohorts of congregate dining participants. They were less likely to attend religious services and invite others to their homes for a meal.

Overall, home-delivery services reach elderly individuals who, in the main, are more homebound and in poorer health. The one possible exception to this conclusion is the fact that approximately one-quarter of the elderly interviewed were able to leave their homes nearly every day.[2] Additional analyses were conducted to ascertain the characteristics of this small subsample of relatively more mobile home-delivered meal recipients.

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[1] See Appendix R for a description of the analytic technique.

[2] This figure is consistent with previous estimates. See The Home Delivered Meals Program: A Service Delivery Assessment, Office of the Inspector General, U.S. Department of Health and Human Services, Feburary, 1981.

In all, these analyses showed that those home-delivered meals recipients who get out of the house are a more generally mobile group in any of a number of dimensions. One exception is that this more mobile group was as likely to have been in a hospital in the past year as their less mobile counterparts.

Since the reported mobility of the sub-population is high, some questions might arise as to why these people get home-delivered meals. There is some evidence that although these persons see themselves as more mobile and able, an objective analysis might indicate otherwise, or that their current level of high mobility is episodic. Another possibility is that some escort arrangement is available to them, but not necessarily one that would obviate the need for a home-delivered meal.

D. Referral to the Home-Delivery Service

Nutrition service directors and providers report that many home-delivered meal recipients are identified through referral from social service agencies, through outreach, or through other means (e.g, publicity in news media, word-of-mouth).

Home-delivered meal recipients were directly queried regarding the sources through which they had first learned about the meal program. Although word-of-mouth (i.e., "some person told me") was the most frequently mentioned source by home-delivered meal recipients (65%) and congregate dining participants (72%), home-delivered meal recipients were far more likely to have been referred by a social agency (18% vs. 6%).[1]

Table VIII-2 shows that a large minority (30%) had ever been active congregate dining participants. Nearly one-quarter (22%) had attended the congregate dining program in the past, and 8% reported occasionally attending a meal site during the interviewing period. Since this small subsample reported greater difficulties getting to the meal site then did congregate participants[2], these persons may have switched to the home-delivery service as a declining health and mobility made getting to the site more problematic. Elderly who attend meal sites on an occasional basis may experience recurring illness that prevents active attendance.

The means through which elderly citizens become home-delivery recipients are clearly related to their special characteristics. Being more infirm, they are more likely to be referred by other agencies and community service organization. Nonetheless, word-of-mouth is still a major source of information about the Nutrition Service.

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[1] A statistically significant difference (χ^2, 1 df, = 74.9, $p < .01$).

[2] A statistically significant difference (F, df = 1 and 1,208, = 2,432, $p < .01$). See Appendix R for a description of the multivariate analytic technique.

TABLE VIII-2

PARTICIPATION IN CONGREGATE[1]
DINING PROGRAM

	Home-Delivered Meal Recipients (N=415)
Occasionally Ever Attend Congregate Site	8%
Do Not Currently Attend, But Attended Congregate Site in the Past	22%[2]
Do Not/Never Attended Congregate Site	65%
Did Not Know/No Response	5%
TOTAL	100%

[1]Source: Q. HA7a: Do you ever go to the hot meal site now?
Q. HA7b: Did you ever go regularly to the hot meal site?

[2]An earlier program assessment found that 21 percent had previously attended a congregate meal site. See The Home Delivered Meals Program: A Service Delivery Assessment, Office of the Inspector General, U.S. Department of Health and Human Services, February, 1981. That study sampled recipients in four Regions; however, this evaluation was based on a national sample.

E. Respondent Perceptions of the Home-Delivered Meal Service

This section of the special analytic chapter presents home-delivered meal recipients' perceptions of the service along several important dimensions:

- Perceptions of contribution policy, whether elderly had increased their donation, opinion of meal costs, and whether they felt home-delivery had saved money
- Ratings of the service and meals
- Awareness and utilization of two basic supportive services: shopping assistance and medical assistance.

Emphasis is placed upon describing home-delivered meal recipients' views and experiences and comparing them with the views and experiences of congregate dining service participants.

1. Contributions and Cost Perceptions

a. Perceptions of Site Contribution Policy

As can be seen in Table VIII-3, 45 percent felt their sites asked for a contribution, 26 percent thought their home-delivered meals were "free," and a large minority (27%) felt their sites charged for the meals.

These data also show that the perceptions of home-delivered meal recipients diverged significantly from those of congregate dining participants.[1] Home-delivered meal recipients were more likely to feel the meal was either "free" (26% vs. 10%), or they were charged (27% vs. 20%), and consequently were less likely to perceive that their site asked for a "donation" (45% vs. 70%).

Since a relatively large minority felt that they were "charged" and Federal regulations are clear that contributions are to be voluntary (i.e. a donation) multivariate analyses were conducted to identify those who held different views concerning their sites' contribution policies.[2]

These analyses proved to be very interesting because those home-delivered meal recipients who were less mobile, less socially active, and older were less likely to feel they were "charged" and were more likely to feel that either their meals were "free" or their contributions were "donations." Conversely, more mobile, more socially active, and younger recipients were more likely to feel that sites "charged" for home-delivery services. The specific results of this analysis are presented below.

- General Mobility

  The less often elderly were able to leave their homes, the more likely they were to feel the meal was free.

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[1] This perception discriminated between home-delivered meal recipients and congregate dining participants. See Appendix R for a description of the multivariate analysis.

[2] See Appendix F for a description of the analytic technique.

TABLE VIII-3

PERCEPTIONS OF SITE CONTRIBUTION POLICY[1]

Perception[2]	Home-Delivered Meal Recipients (N=415)	Congregate Dining Participants (N=1,735)
Free	26%	10%
Donation	45%	70%
Charged	27%	20%
Did Not Know/Could Not Recall	2%	*
TOTAL	100%	100%

[1] Source: Qu. A10/HA8: Are you asked to make a donation, are you charged a fee, or is the (home-delivered) meal free?

* Denotes less than 1%

[2] Percentages differ significantly (χ^2, 2 df, = 52.8, $p < .01$). Home-delivered meal recipients were more likely to feel the meal was free or they were charged and less likely to feel their sites asked for a donation.

- Age

  Younger respondents were more likely to feel they were "charged."

- Membership in Clubs and Social Organizations

  The more active they were in clubs, the more likely they felt they were "charged."

- Customarily Eat Alone

  Respondents who typically ate alone at home were less likely to feel they were charged.

Because these variables were correlated, one relationship is presented in Table VIII-4 to illustrate these findings in a summary fashion.[1] These data clearly show that less mobile home-delivered meal recipients had very different perceptions of their sites' contributions policies.

It should be noted, however, that elderly income and perceived income sufficiency were not significantly related to perceptions of site contributions policies. Less affluent elderly were no more likely to feel their meal was "free" or that their contribution constituted a "donation" than did more affluent home-delivered meal recipients.

Although these data are perceptual in nature and may not necessarily precisely correspond to actual policy, it does appear that sites may tailor policy based upon the extent to which elderly meet or exceed various eligibility criteria.

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[1]Other illustrative tables related to these findings are in Appendix F.

TABLE VIII-4

RELATIONSHIP BETWEEN MOBILITY AND[1]
PERCEIVED SITE CONTRIBUTIONS POLICIES

Perceived Site Policy[2]	Home-Delivered Meal Recipients	
	Leave Home Daily (N=101)	Leave Home Less Often (N=311)
Free	16%	30%
Donation	59%	40%
Charge	20%	29%
Do Not Know	5%	1%
TOTAL	100%	100%

[1]Source: Q. A10, C1: Altogether, about how many times a week do you get out of your home/apartment to run errands, visit, or just walk? Would you say you get out nearly every day, every other day, once or twice a week, or less than once a week?

[2]Percentages differ significantly (χ^2, 2 df, = 14.4, $p < .01$).

b. Method of Determining Participant Contributions

To further explore the issue of site contributions practices, respondents who felt their contributions were treated as "donations" or felt they were "charged" were asked how contribution amounts were decided. A majority (59%) reported that the amount was "set" by the site. Thirty-seven percent reported that they determined how much they would like to contribute. The views of home-delivered meal recipients were comparable to those held by congregate dining participants (see Table VIII-5).

c. Increased Participant Contributions

One-quarter of home-delivered meal recipients (25%) reported having increased their contributions since joining the program, whereas 45 percent of congregate dining participants reported having done so (see Table VIII-6). This large difference may, in turn, be attributable to two major differences between these sub-populations. First, as a group, home-delivered meal recipients had somewhat lower incomes, and second, they were more likely to feel that their meals were free.

Regression analysis[1] revealed that home-delivered meal recipients were more likely to have increased their contributions if they felt they had saved money or if they thought they were "charged" for their meals. Also, home-delivered meal recipients who could not care for their homes by themselves were more likely to have increased their contributions. Since these variables are themselves correlated, one relationship is displayed in Table VIII-7 to illustrate these results in a summary fashion.[2] As can be seen, those who felt they had saved "a lot" of money were more likely to have increased their contribution to the program.

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[1] See Appendix G for a description of the analytic technique.

[2] Other illustrative tables are contained in Appendix G.

TABLE VIII-5

METHOD OF DETERMINING CONTRIBUTIONS[1,2]

Method[4]	Home-Delivered Meal Recipients (N=296)	Congregate Dining Participants (N=1,550)
Site by Site	59%	57%
Respondents Determined the Amount	36%	37%
Do Not Know	2%	2%
No Response	3%	3%
TOTAL	100%	99%[3]

[1]Source: Q. A11/HA9: Is the amount of the (donation or charge) you pay set by the site, or do you decide for yourself how much you will pay?

[2]Elderly who either donated or were charged by the site were asked this question.

[3]TOTAL differs from 100% due to rounding.

[4]Percentages reporting "set by site" or they "determined the amount" do not significantly differ (χ^2, 1 df, = 0.2, p > .05).

TABLE VIII-6

PERCENT OF ELDERLY POPULATIONS THAT[1]
INCREASED CONTRIBUTIONS

Elderly Population[2]	Percent That Increased Contribution
Home-Delivered Meal Recipients	25% (N=415)
Congregate Dining Participants	45% (N=1,735)

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[1]Source: Q. 10a/HA8a: Have you increased your contribution since you jointed this program?

[2]Percentages differ significantly (χ^2, 1 df, = 189.0, $p < .01$). Home-delivered meal recipients were less likely to have increased their contributions.

TABLE VIII-7

RELATIONSHIP BETWEEN PERCEIVED SAVINGS[1,2] AND INCREASING CONTRIBUTIONS

	Home Delivered Meal Recipients		
Contributions[4]	Save A Lot (N=59)	Save Some/ A Bit (N=186)	Save Nothing/ Costs Money (N=39)
Increased Contribution	47%	32%	36%
Did Not Increase Contribution	47%	59%	54%
No Response	5%	10%	10%
TOTAL	99%[3]	101%[3]	100%

[1]Source: Q. A10a: Have you increased your contribution since you joined this program?

Q. B10: Does it save you a lot of money, some money, a little money, or no money, to eat at the site, or does it cost you money?

[2]A more detailed distribution is in Appendix G.

[3]TOTAL differs from 100% due to rounding.

[4]Although percentages in this table do not differ significantly (χ, 2 df, = 3.9, $p > .05$), a significant univariate F value was associated with perceived savings. See Appendix G.

The absence of a relationship between income or perceived income sufficiency and increasing contributions is quite interesting and may be interpreted in the context of home-delivered meal recipients' average contributions. Nutrition service providers report that contributions from home-delivered meal recipients average $.62.[1]

Given the modest average contribution level, contribution may not unduly strain recipients' financial resources.

d. Opinion of Meal Cost

If contributions did strain participants' financial resources, those who did not decide their level of donation but felt that their sites "set" contributions might feel that meal costs were too high. However, data in Table VIII-8 show that this did not occur. Even when elderly report that their contributions are "set" by their sites, the vast majority (88%) felt that the meal was reasonable or "about right." Congregate dining participants held comparable views.

Thus, even when elderly felt they were "charged" or that contribution amounts were "set" by their sites, those amounts were perceived to be equitable. Although a large minority of home-delivered meal recipients (29%) felt they were "charged," the amount they are asked to contribute apparently does not impose a financial hardship.

e. Perceived Savings

The vast majority of home-delivered meal recipients (84%) reported that the home-delivery service had saved them money. Over 20 percent of both service populations felt that participation had saved them "a lot" of money. The fact that only two percent felt the Service "cost money" again indicates that, for the most part, the service helps those with rather modest financial resources. As can be seen in Table VIII-9, comparable percentages of home-delivered meal recipients and congregate dining participants reported the program had saved them at least "a little" money.

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[1]Estimates obtained by Kirschner Associates, Inc. from sites where home-delivered meal recipients were interviewed and contribution data were available.

TABLE VIII-8

OPINION OF MEAL COSTS BY RESPONDENTS[1]
WHOSE SITES SET AMOUNTS PAID

Opinion of Meal Cost[3]	Home-Delivered Meal Recipients (N=174)	Congregate Dining Participants (N=886)
"Meal Should Be Free"/ Costs "Too Much"	3%	3%
Costs Them "About Right"	88%	84%
Costs Them "Too Little"	6%	9%
No Opinion	--	2%
Do Not Know	2%	2%
TOTAL	99%[2]	100%

[1]Source: Q. A12/HA10: Do you think the amount of money you are asked to pay is too much, too little, about right, or should the meal be free?

[2]TOTAL differs from 100% due to rounding.

[3]Percentages do not significantly differ (χ^2, 2 df, = 1.7, $p > .05$).

TABLE VIII-9

PERCEIVED SAVINGS ASSOCIATED[1]
WITH SERVICE PARTICIPATION

Perceived Savings	Home-Delivered Meal Recipients (N=415)		Congregate Dining Participants (N=1,735)	
Save A Lot	22%		24%	
Save Some	40%	84%	37%	83%
Save A Little	22%		22%	
Save Nothing	10%		11%	
Costs Money	2%	12%	3%	14%
Do Not Know	4%		3%	
TOTAL	100%		100%	

[1]Source: Qu. B10/HB4

[2]Percentages reporting savings and "saves nothing/costs money" do not significantly differ (χ^2, 1 df = 0.9, p > .05).

2. Ratings of the Home-Delivery Service

Respondents were asked to rate meal portion adequacy and palatability as well as describe what they liked most about the home-delivered meal program. Overall, their perceptions were quite positive.

a. Meal Adequacy and Palatability

Table VIII-10 shows that 85 percent of home-delivered meal recipients reported "always" getting enough to eat from their meals. Although this is a high percentage, home-delivered meal recipients were somewhat less likely than congregate participants to rate portions this adequate (93%). Although no systematic comparisons of home-delivered and congregate meal portions are possible in this evaluation, this difference is probably due to a combination of factors. First, because congregate meals may be served family-style, participants may be able to go back for second helpings, whereas home-delivery meals are limited to portion sizes that can be economically and readily transported. Secondly, home-delivered meal recipients were more likely to report difficulty chewing food (33% vs. 16% of congregate participants) and that they were unable to eat some foods (28% vs. 13% of congregate participants). Unless specially prepared meals are available for home-delivery, elderly who experience these problems or who are on medically restricted diets may be unable to consume home-delivered meals in their entirety.

Home-delivered meal recipients rated the palatability of their meals as highly as did congregate participants. Ninety-two percent of home-delivered meal recipients and 94 percent of congregate participants reported the meal usually tasted good.

TABLE VIII-10

FREQUENCY OF GETTING ENOUGH[1]
TO EAT FROM SERVICE MEALS

Frequency[2]	Home-Delivered Meal Recipients (N=415)	Congregate Dining Participants (N=1,735)
Always	85%	93%
Sometimes	12%	6%
Rarely	3%	1%
Never	*	*
TOTAL	100%	100%

[1]Source: Q. B8/HB2: Do you get enough to eat at the meal site/from your hot meal? Would you say always, sometimes, rarely, or never?

*Denotes less than 1 percent

[2]Percentages differ significantly (χ^2, 1 df, = 29.4, $p < .01$). Congregate dining participants were more likely to report they "always" got enough to eat than did home-delivered mea recipients.

b. Most Liked Home-Delivery Service Attribute

As noted earlier in this chapter, service providers feel that the home-delivery service meets two important needs: the provision of nutritionally balanced meals and of social contact to less mobile and more frail elderly citizens. These provider attitudes are confirmed by what home-delivered meal recipients reported they most liked about the program. (See Table VIII-11.)

Although a majority (63%) reported that the meal was what they liked most about the home-delivery service, nearly one-third (32%) reported that they most liked the people who deliver their meals. These latter data suggest that those who deliver the meal provide an important source of social contact for many less socially active and more infirm recipients. In fact, for homebound elderly, daily meal delivery may be the most frequent contact they have with people from outside of their homes.

TABLE VIII-11

MOST LIKED HOME-DELIVERY[1]
SERVICE ATTRIBUTES

Service Attribute	Home-Delivered Meal Recipients (N=415)
Meal	63%
People Who Deliver Meal	32%
Other	9%
Do Not Know	5%
TOTAL	109%[2]

[1]Source: Q. HB1: What do you like most about the hot meal service at home--the meal, the people who deliver it, or what?

[2]TOTAL differs from 100% because multiple responses were accepted.

3. Awareness of and Utilization of Site Shopping Assistance

a. Awareness of Site Shopping Assistance

Fifteen percent of home-delivered meals recipients say that the Nutrition site offers assistance with grocery shopping. This compares to 23% of site participants. Both figures are substantially below the 67% of site directors who say their site offers shopping assistance. There is a large gap between the proportion of sites saying assistance is offered and the proportion of participants aware of such assistance.

As is discussed in more detail in the chapter on supportive services, congregate participants who are most likely to know of such services are the most loyal, active participants. They have been at the site longer, attend more frequently, and are generally more active in site activities. It is then in line with these findings that the recipients of home-delivered meals, who have less site contact are conversely somewhat less likely to be aware of shopping assistance.

Regression analyses[1] were conducted to identify individual characteristics related to respondents' awareness of site shopping assistance. These analyses revealed that those home-delivered meal recipients who were aware of and utilized site medical assistance were most likely to be aware of site shopping assistance. The relationship between awareness of site medical assistance and site shopping assistance is contained in Table VIII-12. We defer discussion of these data until presentation of a summary section for utilization of supportive services.

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[1] See Appendix L for a description of the analytic technique.

TABLE VIII-12

RELATIONSHIP BETWEEN AWARENESS[1]
OF SITE MEDICAL ASSISTANCE
AND AWARENESS OF SITE
SHOPPING ASSISTANCE

	Home-Delivered Meal Recipients	
Awareness of Shopping Assistance[2]	Aware of Site Medical Assistance (N=88)	Unaware of Site Medical Assistance (N=227)
Aware	40%	6%
Unaware	58%	94%
Do Not Know	2%	*
TOTAL	100%	100%

[1]Source: Q. HB5: Have/Did the people at the site ever offer(ed) to go with you to help you do your grocery shopping or not?

Q.HB8: Does the site ever help people get medical examinations, treatments, or medicines?

*Denotes less than 1 percent.

[2]Percentages differ significantly (χ^2, 1 df, = 55.8, $p < .01$). Elderly aware of site medical assistance were more aware of site shopping assistance.

b. Utilization of Site Shopping Assistance

About half of the home-delivered meal recipients who are aware of shopping assistance have ever used it. Among those who do use such assistance, more than half use it whenever it is offered.

The pattern is not unlike that observed for site participants. Again, half of those aware ever use the service. The ostensibly more mobile site participants are a little less likely to take advantage of the service every time it is offered.

Regression analyses[1] were employed to identify respondent characteristics related to use of site shopping assistance. Home-delivered meal recipients were more likely to utilize this supportive service if they were aware of and utilized site medical assistance.[2]

4. Availability and Utilization of Medical Assistance

a. Awareness of Site Medical Assistance

There is a wide discrepancy in awareness of availability of site medical assistance between home-delivered meal recipients and site participants. Twenty-one percent of the former and fifty-three percent of the latter are aware of this support service. (This difference is much greater than that observed for awareness of shopping assistance reported earlier.)

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[1] See Appendix M for a description of the analytic technique.

[2] Illustrative tables are not provided, since n's upon which tables are based are too small to reveal differences. See Appendix M for a description of the multivariate results.

TABLE VIII-13

RELATIONSHIP BETWEEN AWARENESS OF[1]
SITE SHOPPING ASSISTANCE AND AWARENESS
OF SITE MEDICAL ASSISTANCE

	Home-Delivered Meal Recipients			
Awareness of Medical Assistance	Aware of Site Shopping Assistance (N=64)		Unaware Of Site Shopping Assistance (N=342)	
Aware	55%		15%	
Unaware	20%	45%	62%	85%
Do Not Know	25%		23%	
TOTAL	100%		100%	

[1]Source: Q. HB5, HB8

[2]Percentages differ significantly (χ^2, 1 df, = 48.7, $p < .01$). Recipients who were aware of site snopping assistance were more aware of site medical assistance.

Regression[1] revealed that three characteristics of home-delivered meal recipients were significantly related to their awareness of site medical assistance. Among the minority of home-delivered meal recipients who had ever attended or currently ever attend congregate sites, those who had more difficulty getting to the site were less aware of site medical assistance. This finding is reminiscent of previous results showing that the more frequently congregate participants attended their sites the more aware they were of availability of this supportive service. The less trouble individuals have getting to their sites, the more frequently they attend, and thus the more familiar they become with the full range of site supportive services.

Otherwise, these multivariate analyses revealed patterns supporting earlier findings regarding the awareness of and utilization of shopping assistance. Home-delivered meal recipients who were aware of and used site shopping assistance were far more likely to be aware of the availability of site medical assistance. Table VIII-13 illustrates the relationship between awareness of site shopping assistance and site medical assistance.

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[1]See Appendix N for a description of the analytic technique.

b. Utilization of Site Medical Assistance

Home-delivered meal recipients who are aware of the availability of medical assistance are about equally divided between those who have taken advantage of such assistance and those who have not. Those proportions are not unlike those observed for site participants.

Multivariate analyses[1] revealed that two individual characteristics of home-delivered meal recipients significantly predicted whether they had utilized medical assistance offered through sites. Elderly who were both aware of and frequently used site shopping assistance were more likely to utilize site medical assistance. Table VIII-14 illustrates the relationship between awareness of site shopping assistance and utilization of site medical assistance.

[1]See Appendix O for a description of the analytic technique.

TABLE VIII-14

RELATIONSHIP BETWEEN AWARENESS OF[1,2] SITE SHOPPING ASSISTANCE AND UTILIZATION OF SITE MEDICAL ASSISTANCE

Use of Medical Assistance	Home-Delivered Meal Recipients: Aware of Site Shopping Assistance (N=35)	Home-Delivered Meal Recipients: Unaware Of Site Shopping Assistance (N=51)
Have Used	66%	47%
Have Not Used	34%	51%
No Response	--	2%
TOTAL	100%	100%

[1]Source: Q. HB5, HB9: Have you ever used this service?

[2]Only those reporting medical assistance was available appear in this table.

[3]Although percentages do not differ significantly (χ^2 1 df, = 1.9, $p > .05$), a significant univariate F value was associated with awareness of site shopping assistance. See Appendix O.

c. Summary: Utilization of Supportive Services

Although not everyone who was aware of either site shopping assistance or medical assistance utilized them, those who used one were significantly more likely to use the other supportive service as well. Given that a large proportion of home-delivered meal recipients have restricted mobility and are in poor health (see Table VIII-2), utilization of both supportive services is not surprising and, more importantly, illustrates how the program meets the needs of home-bound elderly. Each of these supportive services provides assistance that may help a substantial percentage of frail home-delivered meal recipients continue to function outside of an institutional setting.

F. Former Participants: A Potential Home-Delivery Service Population

Earlier in this chapter we noted that the home-delivered meal service reaches frail, home-bound individuals who are in most instances significantly worse-off than congregate dining participants (see Table VIII-1). In this section we address the issue of whether former participants are a potential service population for home-delivered meals.

Addressing this issue consists of asking two related questions. First, are former participants like or becoming like home-delivered meal recipients in ways that reflect eligibility criteria used for screening and enrolling home-delivered meal recipients? Second, if former participants are likely to meet home-delivery eligibility criteria, do their past perceptions of the congregate program provide insight into how outreach could be most effectively conducted? Although the sample of former participants interviewed was not specifically designed to be representative of all former participants, data from this sample should be informative.[1]

Data in Table VI-1 show that, in some important respects, former participants are beginning to resemble home-delivered meal recipients. First, they are older than congregate participants, but younger than home-delivered meal recipients. Discriminant function analysis[2] revealed that the three groups differed with respect to the other characteristics in Table VI-1.

Broadly speaking, there are two basic differences between the three elderly sub-populations: mobility and health. First, former participants are becoming less mobile than congregate participants, although they remain considerably more mobile than home-delivered meal recipients. Former participants are less likely to get out of their homes nearly every day, attend religious services less often, and are somewhat less likely to be able to care for their homes by themselves than are current congregate dining participants.

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[1] Former participants were not purposely sampled during Wave I (1976) or Wave II (1982). They were interviewed in the course of sampling and interviewing other participant and non-participant groups. See the Methodology Appendix.

[2] See Appendix S for a description of the analytic technique.

TABLE VIII-15

SELECTED DEMOGRAPHIC, MOBILITY, AND HEALTH CHARACTERISTICS

Characteristics[1]	Congregate Participants (N=1,735)	Former Participants (N=249)	Home-Delivered Meal Recipients (N=415)
Average Age[2]	73 yrs.	76 yrs.	78 yrs.
Get Out of the House Nearly Every Day	81%	63%	24%
Can Clean and Maintain Home by Themselves	89%	82%	41%
Attend Religious Service Once a Week or More Often	62%	53%	16%
Self Rated Health is Fair or Poor	25%	31%	59%
Spent Time in Hospital/ Nursing Home in Past Year	23%	33%	44%

[1] These characteristics, except age, maximally discriminated between the three groups (all univariate F's, df = 2 and 1,336 > 33.0, all p's < .01). See Appendix S.

[2] On average, home-delivered meal recipients were older than former participants, and former participants were older than current congregate participants (all z's > 2.4, p's < .01).

Second, former participants' health status is somewhat worse than current congregate participants, but is better than that reported by home-delivered meal recipients. As can be seen, 31 percent felt their current health was "fair" or "poor" and one-third (33%) had either been hospitalized or had spent time in a nursing home during the past year.

We suspect that the most important finding in Table VIII-15 is whether elderly were institutionalized, because this can significantly impact mobility and reduce the degree to which elderly may be able to independently care for themselves in the future. Although we cannot categorically state that former participants will inevitably become as frail or homebound as home-delivered meal recipients, the fact that they were more likely to be institutionalized implies two things. First, the large minority of former participants who are being institutionalized could benefit substantially from home-delivery services during their period of convalescence. Second, if the medical condition leading to institutionalization is serious, a substantial minority of former participants may be becoming less able to independently care for themselves and, thus, could benefit from longer-term enrollment in the home-delivered meals program.

Periodic outreach and assessment by providers of former participants could help identify interested former congregate participants who, for reasons of health, could benefit from the home-delivery program. If this outreach were to be conducted, providers should be cognizant that former participants held different views of their meal sites than do current congregate participants. These data are contained in Table VIII-16.

Table VIII-16 shows that former participants had less positive views of site ambience and were less likely to enjoy the companionship afforded by the congregate meal. These views will probably not be a barrier to their enrollment in the home-delivered meals program, but the other program perceptions in Table VIII-16 could. For example, former participants were more likely to feel they had been "charged" for the meal (27% vs. 20% of current participants) and that participation was more likely to save them no money or cost them money (23% vs. 14% of current participants). Thus, during any outreach to former participants, care should be taken to reinforce the perception that any contributions they may wish to make are strictly voluntary and disabuse them of the perception that they will be charged a fee for home-delivery.

TABLE VIII-16

CURRENT AND FORMER CONGREGATE PARTICIPANTS' PERCEPTIONS OF THEIR CONGREGATE SITES

Perception[1]	Current Congregate Participants (N=1,735)	Former Participants (N=249)
Site Was "Very Pleasant"	84%	67%
Spent "A Lot" of Time Visiting Friends at Site	43%	23%
Felt They Were "Charged" For Meals	20%	27%
Participation Saved Them No Money or Cost Money	14%	23%
Increased Contribution	45%	20%

[1]Discriminant Function analysis in Appendix T reveals that these perceptions maximally discriminate between the two groups. All univariate F values (df = 1 and 1,178) for variables in this table > 7.0, all p's < .01.